DISSERTATION ON

"A STUDY TO ASSESS THE EFFECTIVENESS OF ALMOND POWDER ON LACTATION AMONG POSTNATAL MOTHERS IN 'INSTITUTE OF OBSTETRICS AND GYNECOLOGY AND HOSPITAL FOR WOMEN AND CHILDREN', CHENNAI."

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CERTIFICATE

This is to certify that this dissertation titled **"A study to assess the effectiveness almond powder on lactation among postnatal mothers at the Institute of obstetrics and Gynecology, Government hospital for women and children, Chennai.** is a confide work done by **Mrs. A. Josephine Carmel Rani , II year M Sc (N)student,** College of Nursing, Madras Medical College, Chennai, submitted to **The Tamil Nadu Dr. M.G.R. Medical University, Chennai,** in partial fulfillment of the university rules and regulations towards the award of the degree of **Master of Science in Nursing. Branch – III Obstetrics and Gynecological Nursing**, under our guidance and supervision during academic period from 2014-2016.

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"BLESSED IS THE MAN WHO TRUSTS IN THE ORD AND HAS MADE THE ORD HIS HOPE AND CONFIDENCE."

-JEREMIAH: 17.7

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Abstract

TITLE : A study to assess the effectiveness of almond powder on lactation among postnatal mothers in the Institute of obstetrics and gynecology and hospital for women and children, Chennai.

Breastfeeding is the optimal first food for newborns in terms of health outcomes for both mother and child. The amount of milk produced may depends on how often the mother is nursing . It is beneficial to nurse on demand to nurse when the baby wants to nurse rather than a schedule. Galactagogues are substances that increase milk volume by enhancing the rate of milk production and include herbs such as almonds, fenugreek, blessed thistle, and fennel and .medications such as domperidone, metoclopramide.

Need for study: A major reason given by mothers for premature cessation of breastfeeding is their perception of insufficient milk supply. Health professionals, have a key role in encouraging the breastfeeding through monitoring from the prenatal to the postpartum, both the pregnant woman, but also the family and community, where everyone can support and encourage breastfeeding.

Objectives :

- To assess of breast milk inadequacy among postnatal mothers in the control and experimental group.
- To assess the breast milk adequacy on lactation among postnatal mothers in experimental and control group after intake of almond powder.
- To assess the effectiveness of almond powder on lactation among postnatal mothers by comparing the control and experimental group.
- To find out the association between the breast milk adequacy among postnatal mothers with selected variable in the control and experimental group.

Key words

Postnatal mother, Almond, effectiveness, lactation

Methodology:

Research approach – Evaluative approach

Research Design - True experimental study design ,

Sample size - 60 postnatal mothers

Sampling technique - Random sampling

Study Settings - Postnatal ward at IOG

Study Population - Postnatal mothers

Tool - modified tool for adequacy of breast milk on lactation.

Data collection procedure – Formal permission was obtained from the Director and Head of the IOG, Chennai. After establishing a good rapport with postnatal mothers, Informed and written consent was obtained. Modified tool for adequacy of breast milk were filled by both experimental and control group. Almonds are .dried , powdered and it was given in the form of 30g powder mixed with the 100^{ml} of milk once a day (Morning 10am) for the consecutive five days. I spent half an hour for every postnatal mother for the intervention. On the 5^{th} day evening breast milk adequacy was evaluated in both the experimental and control group..

Data Analysis : The data were analyzed using descriptive statistic such as Mean .Standard deviation ,Frequency and Percentage and inferential statistic like paired 'T" and unpaired "T" test ,Chi square test.

Study results : The results revealed that the experimental mothers are having an adequate 86.7% level of breast milk secreation whereas in control group are having 100%. Satisfactory level. Differences between pretest and posttest score

was analyzed using proportion with and mean difference. **This difference shows the effectiveness of almond powder** (p-.000) on increasing the adequacy of breast milk which was statistically significant in the experimental group**.**

Discussion : There is an significant difference in the level of breast milk adequacy on lactation among postnatal mothers. Hence the H1 hypothesis has accepted.

Conclusion. The investigator there by concludes that the almond powder has increased adequacy of breast milk secreation among postnatal mothers.

Recommendation: A similar study can be conducted by providing almond from the antenatal period to assess the effectiveness on lactation.

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CHAPTER -I

INTRODUCTION

"While breast feeding may not seem the right choice for every parent, it is the best choice for every baby"

~ Amyspangler

The postnatal period or puerperium is an adjustment after pregnancy, starts as soon as the placenta expelled and extends up to the period of six weeks. During this period the anatomic and physiological changes that occurred during pregnancy are reversed and the body returns to non-pregnant stage. Physiological changes during this time include mainly the lactation changes.

Although lactation starts following delivery, the preparation for effective lactation starts during pregnancy. There will be remarkable growth of both the ductal and lobuloalveolar systems (mamogenesis). Milk secretion actually starts on 3rd or 4th postpartum day. Around this time the breast become engorged, tense, tender, and feel warm. When the estrogen and progesterone are withdrawn following delivery, prolactin begins its milk secretory activity in previous fully developed mammary gland. The secretary activity is enhanced directly or indirectly by growth hormone, thyroxin, glucocorticoids and insulin (lactogenesis). Discharge of milk from the mammary gland depends not only on the contractile mechanism which expresses the milk from the alveoli in to the ducts (galactokinesis). Prolactin appears to be the single most important galactopoietics hormone. For maintenance of effective and continuous lactation, suckling is essential. It is not only essential for the removal of milk from the glands, but it also cause the release of prolactin (galactopoietics) [1].

Breast milk is the first and best food for newborns in terms of health outcomes for both mother and child. Breast milk is a unique source of food for babies which contains all necessary nutrients that will ensures the infant's health for growth and development. Breast milk contains antibodies and lymphocytes from the mother that help the baby to resist infections. The immune function of breast milk is individualized, as the mother, through her touching and taking care of the baby, comes into contact with pathogens that colonize the baby and as a consequence her body makes the appropriate antibodies and immune cells [2].

This source of food cannot be replaced with any other diet. Short- and long-term benefits are associated with the sudden reduction of infant death syndrome; positive immunological effects; reductions in the risks of otitis media, non specific gastroenteritis, severe lower respiratory tract infections, atopic dermatitis, obesity, type 1 and 2 diabetes, and childhood leukemia[3] .

Breastfeeding also provides health benefits for the mother. It assists the uterus in returning to its pre-pregnancy size and reduces post-partum bleeding, as well as assisting the mother in returning to her pre-pregnancy weight. Breastfeeding also reduces the risk of breast cancer later in life. Lactation protects the mother and infant from both types of diabetes[4].

A healthy mother will produce about 500-800 ml milk a day to feed her infant with about 500 KCal/day. This requires about 600 Kal/day for the mother which must be made up from the mother's diet or from her body store[1] . The amount of milk produced may depend on how often the mother is nursing the more the mother nurses her baby, the more milk is produced. A Cochrane review came to the result that a greater volume of milk is expressed whilst listening to relaxing audio during breastfeeding, along with warming and massaging of the breast prior to and during feeding [5].

Actual inability to produce enough milk is rare, with the studies showing that mothers from developing countries experiencing nutritional hardship still produce more

amounts of milk of similar quality to that of mothers in developed countries. There are many reasons a mother may not produce enough breast milk. Some of the most common reasons are an improper latch (i.e., the baby does not connect efficiently with the nipple), not nursing or pumping enough to meet supply, certain medications (including estrogen-containing hormonal contraceptives), illness, and dehydration [6].

Women who have experienced breast surgery, most commonly breast reduction and augmentation, may not be able to produce enough milk. Maternal obesity has been implicated in delayed lactogenesis. A rare reason is Sheehan's syndrome, also known as postpartum hypo pituitarism, which is associated with prolactin deficiency: This syndrome may require hormone replacement[8].

Many mothers worry that they may not produce enough milk for their babies. Rarely, a woman may have a physical or hormonal condition that makes it difficult to build or maintain milk production. Insufficient milk supply is defined as a state in which a mother has or perceives that she has an inadequate supply of breast milk to either satiate and/or support adequate weight gain for the infant .Hill and Humenick have identified several indicators of this state including maternal confidence, maternal satisfaction, and infant satisfaction. Insufficient milk supply leads the mothers to feel unsuccessful at breastfeeding and mothering, and thus, to premature cessation of breastfeeding. One study suggests these conditions occur in about 5% of the population of women (Neifert, 2008) perception of Insufficient breast milk production may contribute to early cessation rates.

Galactagogues (or lactogogues) are medications or substances believed to assist initiation, maintenance, or augmentation of maternal milk production. Common indications for Galactagogues usually are induction of lactation for adoptive mothers, relaxation after weaning, maternal hypothyroidism, stimulate lactation in women with neonates in the neonatal intensive care unit, and for mothers who express milk by hand or pump. Because low milk supply is one of the most common reasons given for

discontinuing breastfeeding. It is present in medications such as domperidone, metoclopramide, and herbs such as almonds, fenugreek, blessed thistle, and fennel[9].

Almonds (PrunusdulcisL.), local name "badam" are edible tree nuts, belonging to the family Rosacea and is very delicious dry fruit with high nutritional value because of its oil contents (Ali, 2012).Almonds are highly rich in their nutritional value as they contain manganese 45 %, copper 20 %, vitamin E 44.8 %, vitamin b2 17.6 %, magnesium 24.6 %, phosphorus 16.8 %, tryptophan 21.8 % and calories 11 % (Chen, 2006) and are declared as an excellent source of vitamin E and manganese by US Food and Drug Administration (Chen, 2006)[10].

These substances increase milk supply, usually by increasing prolactin to initiate the breast milk let-down reflex or oxytocin to aid in breast milk ejection.

1.1 Need for Study

In infancy, no gift is more precious than breastfeeding. Malnutrition is responsible for about one third of deaths among children under five. Above two thirds of these deaths, often associated with inappropriate feeding practices, occur during the first year of life. The World Health Organization now says that nutrition during the first years of life are crucial for life-long health of the infant .The recent Lancet Nutrition Series also highlighted the remarkable fact that a non-breastfed child is 14 times more likely to die in the first six months than an exclusively breastfed child. Though 96% of children (both urban and rural population) under age five have ever been breastfed, only 29% started breastfeeding within half an hour of birth in urban population and 21% in rural population[11].

One National study on feeding practices found that about 50% of mothers cited insufficient milk supply as their reason for stopping breastfeeding. Having a poor milk supply can result from infrequent feeding or poor breastfeeding technique. but lack of confidence in breastfeeding or not understanding the normal physiology of lactation can lead to the perception of an insufficient milk supply even though

when the quantity is enough to nurture the baby[12]. Maternal perception of in sufficient milk production is almost never validated by measured milk volume but is a prime influence in maternal ,decision making to supplement with formula, discontinue breastfeeding, or use of products that stimulate milk supply[13].

Insufficient milk production, often referred to as Insufficient milk syndrome (IMS) was initially described by Guzzler and Briesmeister in 1980 and was quickly recognized by the World Health Organization is the world's largest threat to the continuation of breastfeeding The prevalence of perceived in sufficient milk production by mothers were between 30% and 80%. This reason is associated with the highest discontinuation of breastfeeding occurring as early as 1–4 weeks postpartum[14].

The profound benefits of mother's own milk feeding and the increased survival of preterm infants have generated much attention on how to optimize the lactation performance of mothers who deliver prematurely. Mothers of preterm infants frequently do not provide sufficient milk to meet the needs of their infant because they stop expressing milk and/or have low volume

The Target of united states centers for disease control and prevention is Healthy People 2020 goals include increasing the proportion of babies exclusively breastfed through 3 months of age to 46.2%, exclusively breastfed through 6 months of age to 25.5%, and any breastfeeding at 6 months to 60.%

. Successful initiation depends on experiences in the hospital as well as access to instruction on lactation from breastfeeding experts, particularly in the early postpartum period. Most problems, if identified and treated early, need not pose a threat to the continuation of successful breastfeeding. Health professionals, have a key role in encouraging the breastfeeding through monitoring from the prenatal to the postpartum, both the pregnant woman,

The investigator has observed during her clinical placement in postnatal ward that the mothers suffered with insufficient breast milk on lactation and had problem in

feeding .The investigator felt that there is a need to do some intervention to prevent inadequacy in mothers receiving almond powder to promote lactation and to improve their breast milk secreation .After reviewing the related literature , the investigator came to know that the almond powder has good effect in preventing inadequacy of breast milk secreation in mothers receiving almond powder . So the researcher developed interest to conduct a study by using almond powder to prevent inadequacy of breast milk secreation.

1.2 Statement of the problem:

A study to assess the effectiveness of almond powder on lactation among postnatal mothers in Institute of Obstetrics and Gynaecology, Chennai.

1.3 Objectives:

- To assess of breast milk inadequacy among postnatal mothers in the control and experimental group.
- To assess the breast milk adequacy on lactation among postnatal mothers in experimental and control group after intake of almond powder
- To assess the effectiveness of almond powder on lactation among postnatal mothers by comparing the control and experimental
- To find out the association between the breast milk adequacy among postnatal mothers with selected variable in the control and experimental group.

1.4 Operative Definitions

Effectiveness;

It refers to the outcome of breast milk adequacy with the almond powder on lactation among postnatal mothers.

Almond Powder

Almond powder are prepared from nuts of almond and powdered by investigator which are rich in vitamins and protein, having Galactagogues used for increasing the adequacy of breast milk Secreation.

Lactation

Lactation is the process of providing milk to the baby. Which is secreted by the mammary glands, within the fatty tissue of the breast.

Post natal mothers:

Postnatal mothers are the mothers who are admitted and had their delivery and have the complaints of inadequacy of breast milk secreation.

1.4 Assumptions

- Postnatal mothers have the inadequacy of breast milk during the postnatal period.
- Galactagogues in Almond powder increases adequacy of breast milk among post natal mothers.

1.5 Hypothesis:

H1:- There will be a significant difference in increase of breast milk adequacy among experimental and control group after administration of almond powder.

H2: There will be a significant association between the effectiveness of almond powder among selected variables.

1.6 Delimitations:

- The study duration period is delimited to only four weeks.
- The samples were selected by random sampling method.
- The study will be delimited to the subjects who were hospitalized in IOG.

REVIEW OF LITERATURE

CHAPTER II

2.1 Review of Literature:

The purpose is to convey the knowledge and ideas have been established on a topic, and their strengths and weakness. The literature review must be defined by a guiding concept. It is not just a descriptive list of the material available, or a set of summaries. Main goal is to develop a sound study that will contribute to further knowledge in development of nursing theory, education, practice and research

Literature Review Related To the Study

Section-I Literatures related to Importance of breast feeding.

Section-II Literatures related to various methods to Increase breast milk

Adequacy. **Section-III**

Literatures related to problems regarding breast feeding

Section-IV Literatures related to uses of almond powder

Section-V Literatures related to the effectiveness of almond powder on lactation.

Section I -Literatures related to Importance of Breast feeding

Lacovoc M Sevilia A(2015) British survey, the Avon Longitudinal Study of Parents and Children were performed to investigate the study ,aimed to identify the causal effect of breastfeeding on postpartum depression (PPD), The estimated effect of breastfeeding on PPD differed according to whether women had planned to breastfeed their babies, and by whether they had shown signs of depression during pregnancy. The results concluded that the effect of breastfeeding on maternal depression is extremely heterogeneous, being mediated both by breastfeeding intentions during pregnancy and by mothers' mental health during pregnancy.

Gartner LM, Morton J, Lawrence RA, et al (2012) US American University conducted a descriptive study, among postnatal women regarding the importance of exclusive breast feeding up to early months of delivery. The study revealed that more than 900 infant live per year saved from death if 90% of mothers exclusively breastfed for up to 6 months. Exclusive breastfeeding for 6 months and weaning after 1 year is potential for preventing more than 1 million infant deaths per year, equal to preventing 13% of the world's childhood mortality rate.

Vennemann MM,Bajanowski T,Brinkmann B,etal(2012) . The German Study of Sudden Infant Death is a case-control study to examine the association between type of infant feeding and sudden infant death syndrome. This study shows that breastfeeding reduced the risk of sudden infant death syndrome by ∼50% at all ages throughout infancy. We recommend including the advice to breastfeed through 6 months of age in sudden infant death syndrome risk-reduction messages[15].

Alison M. Stuebe, MD; Janet W. (2010) A Prospective and retrospective observational study to evaluate the association between lactation history and incidence of type 2 diabetes, among parous women, to find the increasing duration of lactation was associated with a reduced risk of type 2 diabetes using selected questionnaire, the study revealed that the longer duration of breastfeeding was associated with reduced incidence of type 2 diabetes in 2 large US cohorts of women. Lactation may reduce risk of type 2 diabetes in young and middle-aged women by improving glucose homeostasis[16].

Shih-Jen Hwang, PhD, (2009) US National institute of health conducted a Third Generation cohort study design and selection criteria for women chosen to receive the breast health survey has been previously described, examined the relations between maternal breastfeeding history using yes, or no question to cardiovascular risk factors, .The study revealed that Breastfeeding in infancy is inversely associated with adult BMI and positively associated with HDL cholesterol. Associations between breastfeeding and BMI may mediate the association between breastfeeding and HDL cholesterol.

UNICEF (2007) report stated that India has close to 2.5 million children born every year, out of these; 1.9 million are under-five, who die in a year. Among the decreased children, 1.4 million children die just within one year and roughly one million children die within a month. Most of these deaths are associated with infant and young child malnutrition and other preventable disease caused mainly due to poor care and inappropriate infant feeding practices. Early initiation of breastfeeding practices provides quality health care for children and reduces their specific health problems[17].

Salehi Abarghooyi &Cornell et al (2013). Lower incidences of respiratory infections, gastrointestinal infections and diarrhea were reported among breast fed infants for 6 months and in infants fed with breast milk longer than 12 months showed that breastfeeding is effective in reducing the risk of myopia in six to seven years old children.

Section-II Literatures related to various methods to improve breast milk adequacy.

Jayamala AK, (2015) A randomized control trial was evaluated the impact of music therapy(MT) on amount of breast milk secretion among mothers of premature newborns by reducing maternal stress at NICU in the MS Ramaiah Medical College and Teaching Hospitals, Bangalore, India. Four sessions of MT in a randomized manner during the study period of 30mins showed significant reduction in stress level and had significant increase (p-value- 0.033) in breast milk expression[18].

Tin.Fei Sims , H Alitalia Hattingh(2014) conducted a exploratory research study in Perth, Australia,on the effect of fenugreek on lactation .by the investigators samples of 10 mothers to maintain a diary of the quantity of milk produced with a pump for a period of two weeks.. In the first week average quantities were 207 ml/day, whereas, milk production in the second week averaged 464 ml/day ($p = 0.004$). This study has enhanced our understanding of the perspectives and attitudes of breast feeding women towards the use of herbal medicines in particular Galactagogues while breast feeding .the positive attitudes of women identified [19].

Sim TF, **Sherriff J**, **Hattingh HL**, **Parsons R**, **Tee LB. (2013)** the study was conducted in selected community area at Mangalore examining the effect of garlic on the odour of breast milk and the nursling's behaviour using purposive sampling technique with quasi experimental design. Eight women, all exclusively breast-feeding their 3- to 4-month old infants, were the subject. The study findings revealed that there was significant difference in the pre-test and post test score of breastfeeding production among postnatal mothers who consume garlic preparations[20].

Koren et al, Canada (2011). A recent American study regarding awareness of the Mother risk Program, with a sample of 250 population simple random method using questionnaire, to find the use of herbs for breast milk secreation among women to estimate that between 7 and 55% of pregnant women using herbal supplements ,for the production of breast milk secreation reported, .the study suggest that the supporting herbs' effectiveness in increasing milk production and more importantly their safety to mother and infant[14].

Ehrenkranz .et al, (2006). A more recent randomized conducted a double-blind study in mothers of preterm infants Drugs the effectiveness of metoclopramide has been evaluated even in the case of preterm births has been studied and the investigator treated 23 mothers of preterm infants 32 days after delivery. They noticed increased plasma PRL levels and milk production after 7 days of therapy there was an significant differences in either milk production or the duration of breastfeeding has been observed between control and treated groups .T he study result showed that the metoclopramide taken in by the suckling has relatively more effect on breast feeding [21].

Section-III Literatures related to problems regarding breast feeding

Rawalpindi in Pakistan (2013) fifty patients at post-natal gynaec ward was attended in the comparative study. Patients were divided into two groups of 25 each. Those patients who were exclusively breastfeeding their babies were included in group-II while group-I included those patients who were not breastfeeding their babies at all.

Patient's demographic data was entered on questionnaire and factors. The most important causative factor responsible for failure of breastfeeding in group-I were noted down. The mothers in group-II were enquired about that problem. Data were analyzed, The study shown that as compared to group-II causative factors involved in failure of lactation in group-I were pain at operated site , insufficient milk production ,breast abscess ,and failure of proper counselling[22].

Sunanda B & Shynee Paul (2013) . Descriptive study was conducted to identify the cultural practices among the postnatal mothers in selected hospitals at Mangalore cultural background.. The data was collected from 200 samples various hospitals at Mangalore. Descriptive survey research approach was adopted, and collected data were analyzed using descriptive and inferential statistics. Majority of the mothers were consumed home medicine, restricted to use cold water, restricted to perform spiritual activities, 16.5% of the mothers had a practice of applying herbal medicine to hasten the cord to dry during the postnatal period. 59.5% of the mothers were following unhygienic practice that using a cloth soaked in baby's urine to remove the coated tongue. Hence the study concluded that the postnatal mothers had followed some of the cultural practices mostly in rural areas which cause problem in breast feeding[23].

U.S. National Library of Medicine (2011) US the American university had a one national study on feeding practices among breastfed women, found that about 50 percent of mothers cited insufficient milk supply as their reason for stopping breastfeeding. The study found that not understanding the normal physiology of lactation can lead to the perception of an insufficient milk supply when in fact the quantity is enough to nurture the baby.

McCann et al. (2007) conducted a comparative study from non-Hispanic Black mothers to White mothers regarding breastfeed. According to their socio economic status Women of lower socioeconomic status are also less likely to breastfeed and to continue breastfeeding

DiGirolamo et al, (2007) Separating mothers from their babies during their hospital stay has a negative impact on the initiation and duration of breastfeeding yet reported that only 57 percent of U.S. hospitals and birth centers allowed newborns to stay in the same room as their mothers. In addition, an inverse relationship exists between breastfeeding rates and invasive medical interventions during labor and delivery, such as cesarean section. Cesarean delivery is associated with delayed skin-to-skin contact between mother and baby, increased supplemental feeding, and separation of mother and baby, all of which lead to suboptimal breastfeeding practices. So the investigator revealed that the separation of mother and lack of knowledge regarding breast feeding may cause feeding difficulties and end with supplemental feeding.

Dr. H.B. Mallikarjuna, C/o. Dr. C.R. Banapurmath,(2002) J.J.M. Medical College, Bapuji Child Health Institute and Research Center, Karnataka, India. This study was conducted at 224 villages of Chitradurga district having a population, using the stratified sampling method, 70 mother and infant pairs were enrolled for each month frequency. Breastfeeding has been the traditional way of feeding newborns in our country, more so in villages. It is a common belief that breastfeeding is a natural phenomenon and proceeds smoothly and uneventfully in villages. However the result of the present study was contrary to this belief. The onset of breastfeeding problems in this study were alarmingly high in the neonatal period, of which majority occurred in the 1st week of life itself.

SECTION IV- Literatures related to uses of almond:

Josse et al. (2014) Evaluatory study to found that almonds added to a high carbohydrate meal (white bread) decreased postprandial glycemia in a dose-response manner for 9 healthy non-diabetic subjects with normal fasting blood glucose levels. The authors hypothesized that this was due to the ability of almonds to decrease glucose absorption and slow gastric emptying rate when ingested with the meal, rather than affecting mechanisms for long-term glucose control, Results suggest that the

addition of almonds to the diet may be an effective intervention for managing inflammation associated with type 2 diabetes. The addition of almonds to the diet is a low cost intervention that is easily implemented into daily lifestyle. Due to the small sample size, additional studies are needed to determine the impact and mechanisms of almond ingestion in subjects with type 2 diabetes[24].

Amity Raja Babar (2011) Almonds are a source of many nutrients which help in the development and health of the human brain. Almonds have been connected to a higher intellectual level and they have long been considered an essential food item for growing children. Almonds also contain two vital brain nutrients, riboflavin and L-carnitine, which have been shown to increase brain activity, resulting in new neural pathways and a decreased occurrence of Alzheimer's disease. Studies have shown that almonds in the diet, as well as almond oil, are nutritive to the overall health and functioning of the nervous system.

Dr. Easton Patric (2011) states that massaging breasts gently with almond oil stimulates the milk producing glands .The body releases oxytocin trigger the milk ejection reflex. Which pushes the milk out of the nipple, making it easier for the mother to breast feed the baby .Hence this produces more milk in the mother. A breast massage will help to open blocked ducts, loosen lumps or hardened areas and reduce the risk of mastitis.

Abbey M, Noakes M, Belling GB, Nestel PJ. (2010) A study published in the British Journal of Nutrition indicates that when foods independently known to lower cholesterol, such as almonds, are combined in a healthy way of eating, the beneficial effects are additive. In this study of 12 patients with elevated LDL cholesterol levels, a diet containing almonds and other nuts, plant sterols (also found in nuts), soy protein, and soluble fiber (in high amounts in beans, oats, pears) reduced blood levels of all LDL fractions including small dense LDL (the type that most increases risk for cardiovascular disease) with near maximal reductions seen after only 2 weeks.

Beekmann and garrett(2006) conducted a study on decrease perineal tear by perineal massage with almond oil ,four randomized control trials that enrolled 2497 pregnant women .The results shows that perineal massage with almond oil had 10% decrease the risk of tears that required stitches and a 16% decrease the risk of episiotomy .

Section V - Literatures related to the effectiveness of almond powder on lactation

Vincenzo Aleandri1et al ;(2012) conducted a cross sectional study at the Umberto I-Policlinico di Roma (an Italian public hospital in the centre of Italy for the use of herbal products is steadily increasing the breast milk secreation. Aim of this study was to estimate the prevalence of use of herbal remedies especially almonds among women during breastfeeding, by an interview-based survey. Participants were interviewed after receiving the informed consent, by a structured and validated questionnaire. Two hundred forty-four breastfeeding women completed the questionnaire. This study reports that nursing mothers are generally had increasing breast milk secreation after the use of almonds[25].

Diana West and Lisa Marasco (2012) The Breastfeeding Mother's Guide to Making More Milk, authors and lactation consultants emphasize, that low milk supply can be caused by problems within a mother's body – such as hormonal imbalances or she may begin with the ability to produce plenty of milk but have her supply decrease later. Author Hilary Jacobson explores how certain foods and herbs can enhance lactation and provide a host of benefits for the new mother and her baby. These include: Nuts: almonds and cashews promote milk supply. Choose raw nuts instead of salted or roasted ones.

Breastfeeding is more beneficial for baby as well mother's health. During the period of breastfeeding, mother's body needs more nutritious calories intake than what they take during pregnancy period Eating special nuts helps nursing mothers all their baby needs for health and growth. It also helps in increasing the breast milk production. Almonds are also capable of building immune power in the body naturally.

Eating almonds during breastfeeding benefits for lactation and hair fall problems after pregnancy. Proteins loaded in the almonds will take good care of your post pregnancy hair fall and hormonal balance. Go nutty and keep up good health of you and your baby.

Matsu Murab, et al (2010) the study assessed the knowledge of mothers of the high income group of urban Baroda, by related to breast feeding. The investigator taken forty mothers with children aged 02 to18months were studied. Knowledge and practice regarding breast feeding were assessed using pre-tested questionnaire on home remedies like almonds helps in promotion of breast milk secretions most of the mothers have below 50% knowledge on usage of home remedies which helps in promotion of breast secretions[26].

Wongs PS (2009) in Dublin, Ireland, sixty mothers taken for an Evaluatory study approach after delivery with poor breast milk secreation regarding almonds are considered to increase milk production in breast feed mothers. Study revealed that those were in experimental group >75% had adequate breast milk secreation. Almonds were also aids digestion and increases milk production in lactating mothers[27].

R L Bergman (2008) Department of Nutrition, U.S.Studied on postnatal mothers that applying almond oil to the skin and doing massage around breast also will increase promotion of breast milk.

Institute of Midwife Archives by BDL O Connor-(2006), United States, San Francso, article 'Divine remedies complete herbal guide for every one' on home remedies for breast feeding problems. They showed that, they are so many ingredients which will induce breast milk production. Among all that almonds are contain more Galactagogues action.

2.2. Conceptual Frame Work

A group of concepts are broadly defined and systematically organized to provide focus, a rationale, and a tool for the integration and interpretation of

information. Conceptual framework serves as a springboard for theory development. The conceptual framework for research study presents the measure on which the purpose of the proposed study is based. The framework provides the prospective from which the investigator views the problem.

The study is based on the concept that lactation among postnatal mothers. The investigator adopted the Wiedenbach's Helping Art of Clinical Nursing Theory (1964) as a base for developing the conceptual framework. This theory directs on action towards an explicit goal. It has 3 factors

Central purpose

Prescription.

Realities

Central Purpose

It refers to what the nurse wants to accomplish. It is an overall goal towards which a nurse strives. In this study the main central purpose is to assess the effectiveness of almond powder among postnatal mothers on lactation.

2. Prescriptions

It refers to plan a care for a patient. It will specify the nature of action that will fulfill the nurses' central purpose in this study, the investigator plans to provide almond powder to postnatal mothers in the experimental group, and assess the mothers in the experimental group and control group on the 5^{th} day after conception of almond powder.

3. Realities

It refers to the physical, physiological, emotional and spiritual factors that affect the nursing action. The five realities identified by Wiedenbach's theory are agent, recipient, goal, means and activities and framework.

The conceptualization of nursing practice according to this theory consists of three steps as follows

Step-1: Identifying the Need for Help

Step-2: Ministering the Needed Help

Step-3: Validating the Help

Step-I- : Identifying the Need for Help

This step involves determining the need for help. The postnatal mothers who are perceiving inadequacy of breast milk secretion are selected and assessed for the effectiveness of almond powder on lactation are randomly assigned to experimental and control group.

Step-2: Ministering the Needed Help

This step involves provision of required help for identified need. It has two components.

Prescription: In this study, the investigator provides almond powder to postnatal mothers who are perceiving inadequacy of breast milk secretion in the experimental group and control group on the 2nd day after delivery**.**

Realities: In this study, the five realities identified by Wiedenbach's theory are Agent- Investigator

Recipient- postnatal mothers receiving almond powder.

Goal- To increase the adequacy of breast milk secreation

Means

Experimental group - To assess the insufficient breast milk secreation and provides almond powder to postnatal mothers. The postnatal mothers who are in insufficient breast milk were assessed with tool on I day followed by administration of almond powder for consecutive 5days.

Control group -. To assess the effectiveness of lactation among postnatal mothers by not providing almond powder routine diet given.

To assess both the groups for the effectiveness of almond powder on lactation.

Step-3: validating the Help

The nurse validates the ministered help. It is accomplished by means of post a grade of assessment of the almond powder on lactation among postnatal mothers on the 5^{th} day after delivery. Then the effectiveness of the intervention is compared between the experimental and control group.

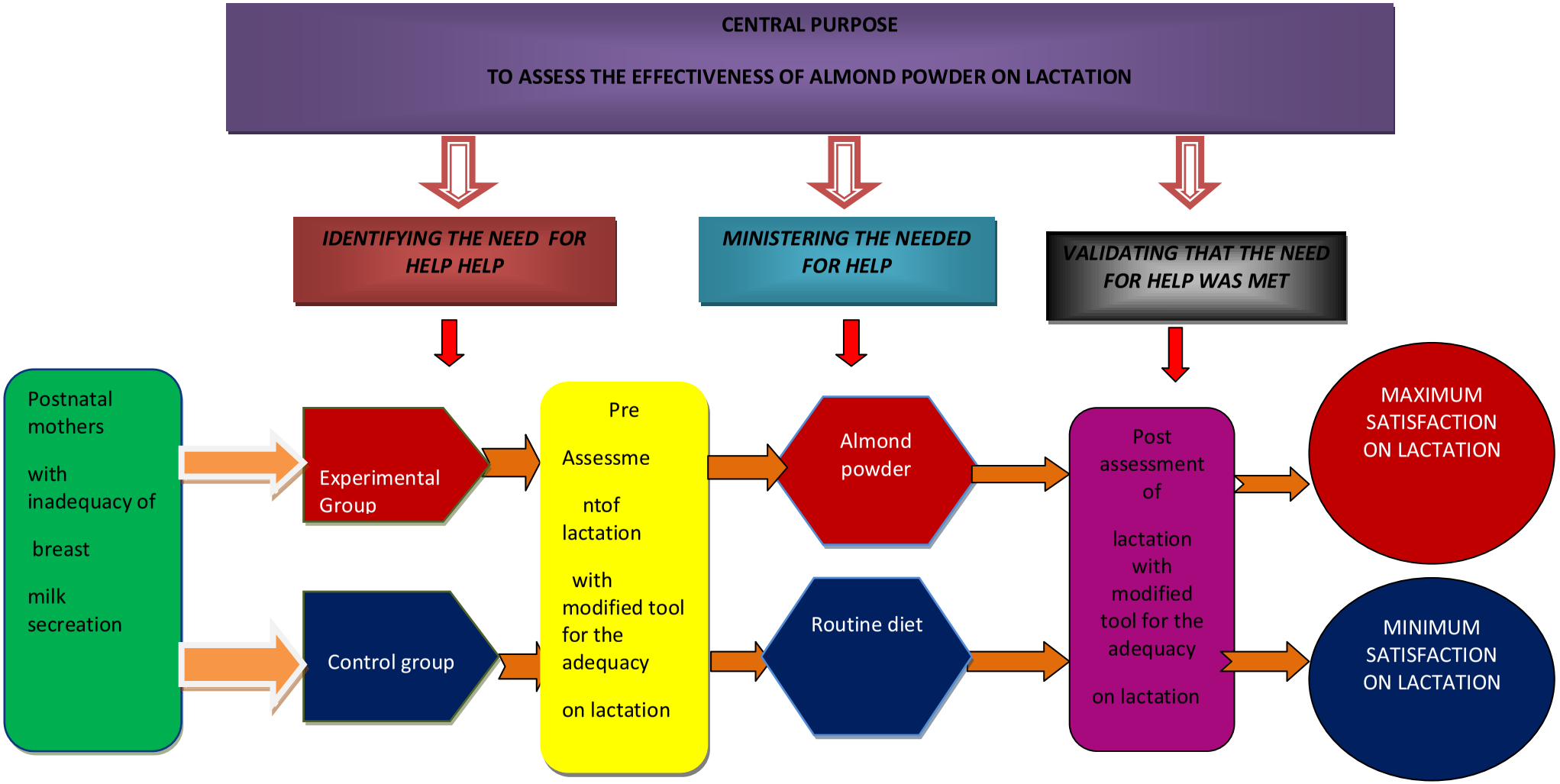


Fig 2.2.1 Conceptual Framework – Modified Wiedenbach's Helping Art of Clinical Nursing Theory

METHODOLOGY

CHAPTER -III

RESEARCH METHODOLOGY

This chapter deals methodological approach adopted to evaluate the effectiveness of almond powder on lactation among postnatal mothers. It includes description of research approach, among research design, variables, study setting, study population, sample size, sampling techniques, development and description of the tool, validity, reliability, pilot study, data collection procedure and statistical analysis.

3.1 Research Approach:

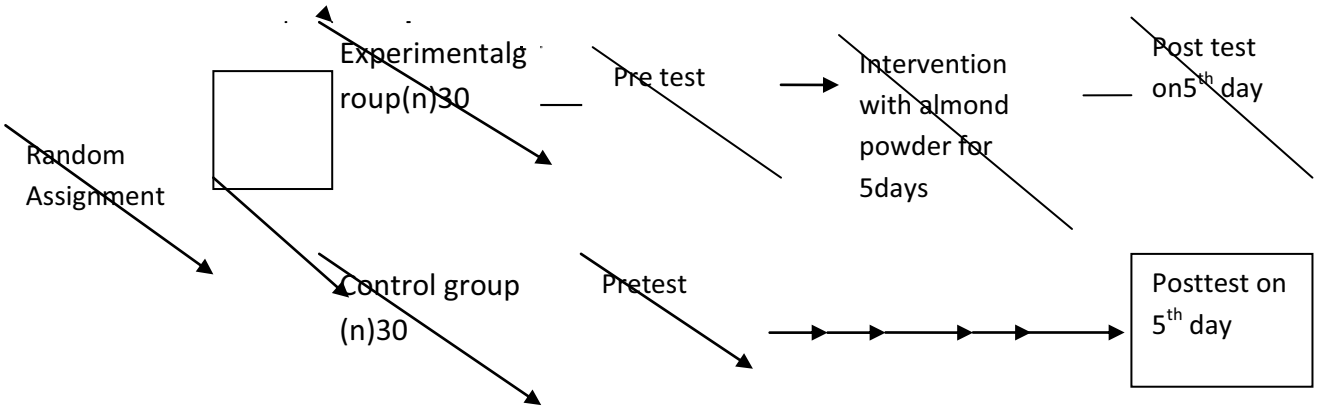
In order to achieve the objectives of the study, an evaluative approach was found to be appropriate and selected for the study. The research approach tells the researcher from where the data to be collected, what to be collected, how to be collected and how to analyze them. It also suggests possible conclusion and helps the researcher in answering specific research questions in the acceptable and efficient way.

3.2 Research Design:

The research design selected in this study is True Experimental Design. In this design, subjects are selected by simple random sampling technique to the experimental and control group.

True experimental design

True experimental designs are where the researchers have complete Control over the external variables and predict confidently effect on dependable variable due to the manipulation of the independent variable.



Experimental group: This group consists of 30 women with inadequacy of breast milk .They were selected for experimental group and they were made to take almond powder.

Control group: This group consists of 30 postnatal mothers with an inadequacy of breast milk and routine diet was provided.

3.3. Data collection period:

The study is conducted for 16.7 15 to 15.8.15 on postnatal mothers at IOG – Chennai.

3.4 Study Settings:

Setting for the present study was ***the postnatal ward at IOG,*** Chennai .Institute of obstetrics and gynecology is a number one famous maternity, tertiary care center, referral care center in India. This institute was unveiled on 26th July 1844 and it has 1075 bedded inpatients and has specialty departments like Genetics ,Endocrinology, Dentistry ,Family planning services ,Neonatal intensive care unit for rendering services and also provide comprehensive care for entire states and Tamilnadu. The largest population of delivery is documented in IOG hospital.

Though many hospitals are there in the private sector, people residing in and around Chennai prefer IOG hospital to meet their health care needs. This is because of

economical reasons as well as availability of health care facilities and infrastructure of this Institution. This was selected because of the investigator's acquaintance with the setting, easy accessibility and co-operation of the authorities.

3.5 Study Population

Postnatal mothers were admitted in postnatal ward at, IOG, Chennai.

3.6 Sample Size

Polite and Hunger (1999) state that a sample consists of the subject of the population selected to participate in the research study. To fulfill the objective of the study, the postnatal mothers admitting in the postnatal ward were selected.

The sample size for the study comprise of 60postnatal mothers. Out of which, 30 were in experimental group and 30 in control group.

3.7 Sample Selection Criterion:

A) Inclusion Criteria

- Mother who can understand Tamil or English
- Mothers who are willing to participate in the study
- Postnatal mothers having inadequacy of breast milk secreation.
- Mother of babies in newborn intensive care unit ward.

B) Exclusion criteria

- Mothers who are not willing to participate in the study.
- Mothers with critical illness

3.8 Sampling technique:

Random sampling technique were used

3.9. Research Variables:

Independent variables*:* Almond powder

Dependent Variables: Mothers with breast milk inadequacy.

3.10. Development and description of the tool:

3.10.1 Development of the tool

Tool is developed after extensive review of literature from various text book, journals, and discussion and guidance from the nursing and medical and experts in the field of nursing, Department of obstetrics and gynecology.

3.10.2 Description of the tool:

Section - A: Comprised of 9 items seeking information on demographic data of the women with inadequacy of breast milk secreation like age, education, religion, occupation ,total income (per month), marital status, number of children, and dietary pattern.etc

Section - B: Comprised of 7 items seeking information on obstetrical data of the postnatal mothers like Type of delivery, Number of parity, Time of initiation of breast feeding, Feeding pattern, Knowledge of breast feeding, health benefits of almonds etc.

Section –C: Comprised of 12 items seeking information on breast milk adequacy data of postnatal mothers.

1. My baby attaches correctly on my breast while feeding.
2. My baby appears relaxed during feeding and satisfied after feeding

3. My baby appears awake ,alert, calm, between feedings
4. My baby falls asleep after feed and does not cry
5. My baby voids adequately (more than 6times/Day)
6. My baby has normal bowel movements (3-6 times/Day)
7. My baby sleeps well (at least2-3 hrs) after taking breastfeed
8. I hear audible swallowing sound while my baby is taking breast feed.
9. I adequately breast feed my baby (at least 8-12 times a day)
10. I feel that my breast are full before feeding and empty after feeding
11. I could feel the milk dribbling from the breast.
12. I usually feed until the baby spontaneously comes off the breast.

Key-notes	**scores**
0-disagree	0-12 In-Adequate
1-mildly agree	13-24 Satisfactory
2-moderately agree	25-36 Adequate
3-strongly agree	

	Experimental group	Control group
Place	Postnatal ward	Postnatal ward
Dose	Almond powder 30mg added in 100 ml of milk	Routine diet
Duration	5 days	5 days
Frequency	once a day	–
Time	9.30 am & 11.00am	–
Administered by	The investigator	Self
Recipients	Postnatal mothers with breast milk inadequacy	Postnatal mothers with breast milk inadequacy

3.10.3 Intervention protocol

3.10.4 Content validity:

Validity of the tool was assessed using content validity. Content validity was determined by experts form Nursing and Medical. Department. Modified tool for adequacy of breast milk on lactation. This tool can be used for assessing the effectiveness of almond in promotion of adequacy of breast milk secretion, among the postnatal mothers in IOG and Hospital for Women and Children, Chennai.

3.11 Ethical consideration:

This study was conducted after the approval from the ethical committee, Madras medical college, Chennai. Permission was obtained from the Director of IOG and Hospital for Women and Children. All respondents were carefully informed about the purpose of the study and their part during the study and the privacy was ensured.

Confidentiality of the study result was ensured .The freedom was given to the client to leave the study at her will without assigning any reason. No routine care was altered or withheld. Thus the investigator followed the ethical guidelines which were issued by the institutional ethics committee. Written consent was obtained from all participants.

3.12 Pilot study

A pilot study is a small scale version or trial run, done in preparation for the major study. The principle focus of a pilot study is assessment of the adequacy of the data collection plan. The investigator conducted the pilot study in IOG Hospital for women and children, Chennai. The sample size for the pilot study was 5 in the experimental group and 5 in the control group. The purpose of the study was explained to the subjects and an informed written consent was taken prior to data collection. Data was collected using the prepared tools. The study was found to be feasible and practical. Data analysis was done using descriptive and inferential

3.13 Reliability

After the pilot study, reliability of the tool was assessed by using inter rater method. with Pre-test and post-test method. Correlation coefficient values of r= (0.855). This correlation coefficient is very high and it's found good tool for assessing the effectiveness of almond powder on lactation with modified tool for adequacy of breast milk among postnatal mothers.

3.14 Data collection procedure:

Formal permission was obtained from the Director and Head of the Department of IOG, Chennai. The postnatal mothers were assured that the data collected will be kept confidential. The data collection was done from 16.7.15 to 15.8.15 (four weeks). The investigator selected the samples from the postnatal ward. Pilot study samples were excluded from the main sample. After establishing a good rapport with postnatal mothers, Informed and written consent was obtained. And modified tool for adequacy of breast

milk were filled by both experimental and control group .Approximately two to three samples were selected every day and Almonds are dried and powdered and it was given in the form of 30g powder mixed with the 100^{ml} of milk once a day (morning 10am) for the consecutive five days. I spent half an hour for every postnatal mother for the intervention. Meanwhile I clarified their doubt regarding breast feeding, postnatal diet and their usual doubts. On the 5^{th} day evening breast milk adequacy was evaluated in both the experimental and control group.

3.15 Data entry and analysis.

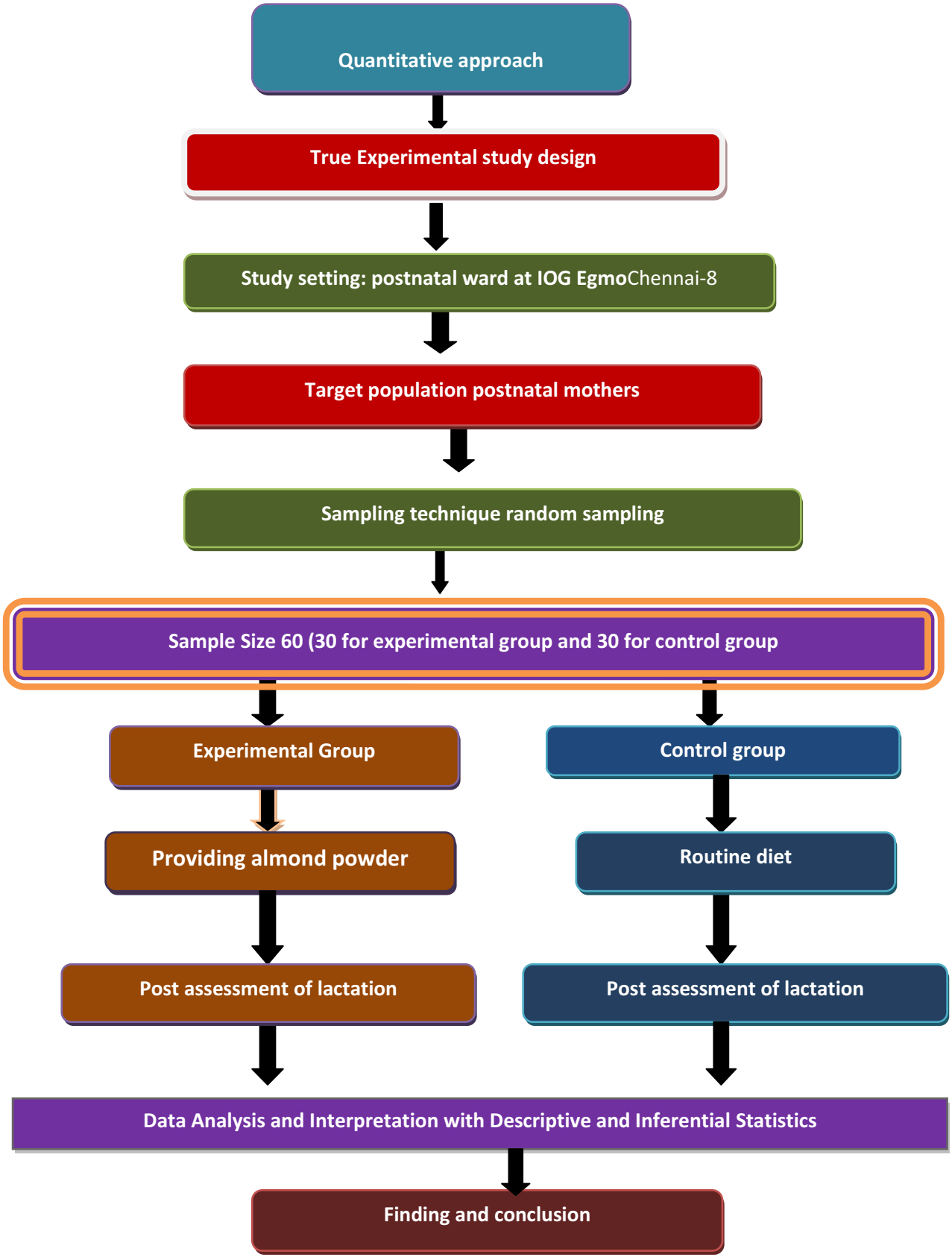
Demographic variables in categorical/dichotomous were given in frequencies with their percentages.

Modified tool for adequacy of breast milk on lactation were given in mean and standard deviation.

- Difference between experimental and control was analyzed using student independent t-test.
- Association between levels of lactation with demographic variables is calculated using chi square test.
- Differences between experiment and control score was analyzed using mean difference with 95% Confidence interval.
- Simple bar diagram, Multiple bar diagram, Pie diagram were used to represent the data $P<0.05$ was considered statistically significant.

FIGURE –2

SCHEMATIC REPRESENTATION OF RESEARCH DESIGN



DATA ANALYSIS AND INTERPRETATION

CHAPTER -IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the discussion of the results of the data analyzed based on the objectives of the study and the hypothesis. The purpose of the study is to assess the "Effectiveness of almond powder on lactation among postnatal mothers admitted at IOG, Chennai.

Organization of the data

The data collected were edited, tabulated and interpreted and findings obtained were presented in the form of tables and diagrams represent the following heading.

Section-I

a) Description of demographic profiles of postnatal mothers who receive almond powder in the experimental and control group.

b) Description of the obstetrical related variables of postnatal mothers who receive almond powder in the experimental and control group

c) Description of knowledge and practice based information who receive almond powder in the experimental and control group

Section-II:

Data on assessment of breast milk inadequacy among postnatal mothers in the control and experimental group.

Data on post assessment of breast milk adequacy on lactation among Postnatal mothers receiving almond powder in experimental and control group

Section-III

Data on comparison of pre assessment and post assessment level breast milk adequacy among postnatal mothers between the experimental and control group.

Section-IV

Data on assessment of effectiveness of almond powder on adequacy of breast milk secreation among postnatal mothers in pre and post test of experimental group.

Section -V

Data on the association between the breast milk adequacy among postnatal mothers with demographic variable& obstetric variables in the control and experimental group.

Statistical analysis

1) Demographic variables in categorical/dichotomous were given in frequencies with their percentages.
2) Level of breast milk adequacy was given frequencies with their percentages.
3) Association between level of breast milk adequacy core and demographic variables were analyzed using Pearson chi square test.
4) Adverse effect are compared using Two sample binomial Proportion test
5) Effectiveness of almond powder. It was assessed using proportion with 95%CI $P<0.05$ was considered statistically significance.

SECTION-I: A) This section describes the demographic profiles of postnatal mothers who receive almond powder in the experimental and control group.

Table 4.1: Distribution of Demographic variables of postnatal mothers

Demographic variables		Control group		Experimental group	
		frequency	in %	frequency	in%
Age	< 21	5	16.7	5	16.7
	21-25	16	53.3	19	63.3
	26-30	6	20.0	5	16.7
	31-35	3	10.0	0	0.0
	Above 35	0	0.0	1	3.3

Education	Primary	7	23.3	11	36.7
	Secondary	14	46.7	9	30.0
	UG	7	23.3	10	33.3
	PG	2	6.7	0	0.0
Occupation	Home maker	24	80.0	26	86.7
	Employed	4	13.3	2	6.7
	Self employed	2	6.7	2	6.7
Monthly income	Below Rs6000/-	5	16.7	14	46.7
	Rs6001/- to Rs 7000/-	7	23.3	4	13.3
	Rs7001/- toR10,000/-	11	36.7	8	26.7
	MorethanRs10,000/-	7	23.3	4	13.3
Religion	Hindu	20	66.7	23	76.7
	Christian	6	20.0	2	6.7
	Muslim	4	13.3	5	16.7
Residency	Urban	15	50.0	25	83.3
	Rural	12	40.0	5	16.7
	Semi-urban	3	10.0	0	0.0
Marital status	Married	29	96.7	30	100
	Separated	1	3.3	0	0.0
Type of family	Nuclear	9	30.0	13	43.3
	Joint	14	46.7	14	46.7
	Extended	7	23.3	3	10
Food habits	Vegetarian	3	10.0	0	0
	Non-vegetarian	1	3.3	0	0
	Mixed	26	86.7	30	100

Table 4.1: shows the demographic information of women those who were participated for the following study on ". A Study to Assess the Effectiveness of Almond Powder on Lactation among Postnatal mothers in postnatal ward at IOG, Chennai.

With regards to the **Age** of postnatal mother's majority 19 (63.3%) was in the age group of 21-25 years. In control group regarding the age of the mothers majority 16 (53.3%) were in the age group of 21-25 years.

In view of regarding **Education,** 10 (33.3%) belongs to U.G education and in control group, 14(46.7%) belongs to secondary education.

Most of experimental group, **Occupation**, 26(86.7%) were home maker and in control group, 24(80.0%) were home maker.

With regards to the **Family monthly income** majority 11(36.7%) belongs to Rs 6000in experimental group and in control group 11(36.7%) belongs to 7000-10,000 Rs. /month.

Majority in experimental group, regarding religion 23 (76.7%) belongs to **Hindu** and in control group 20 (66.7%) belongs to Hindu religion.

In experimental group, regarding, **Residency** 25(83.3%) belongs to urban population and in control group 15(50.o %) were in urban population.

With regards to the **Marital status** 30(100%) belongs to married and in control group, regarding marital status 29(96.7%) belongs to married.

In experimental group, regarding **Type of family**14 (46.7%) belongs to joint family and in control group 14(46.7%) belongs to joint family.

Majority of mothers regarding **Food habits** 30(100%) belongs to mixed diet.

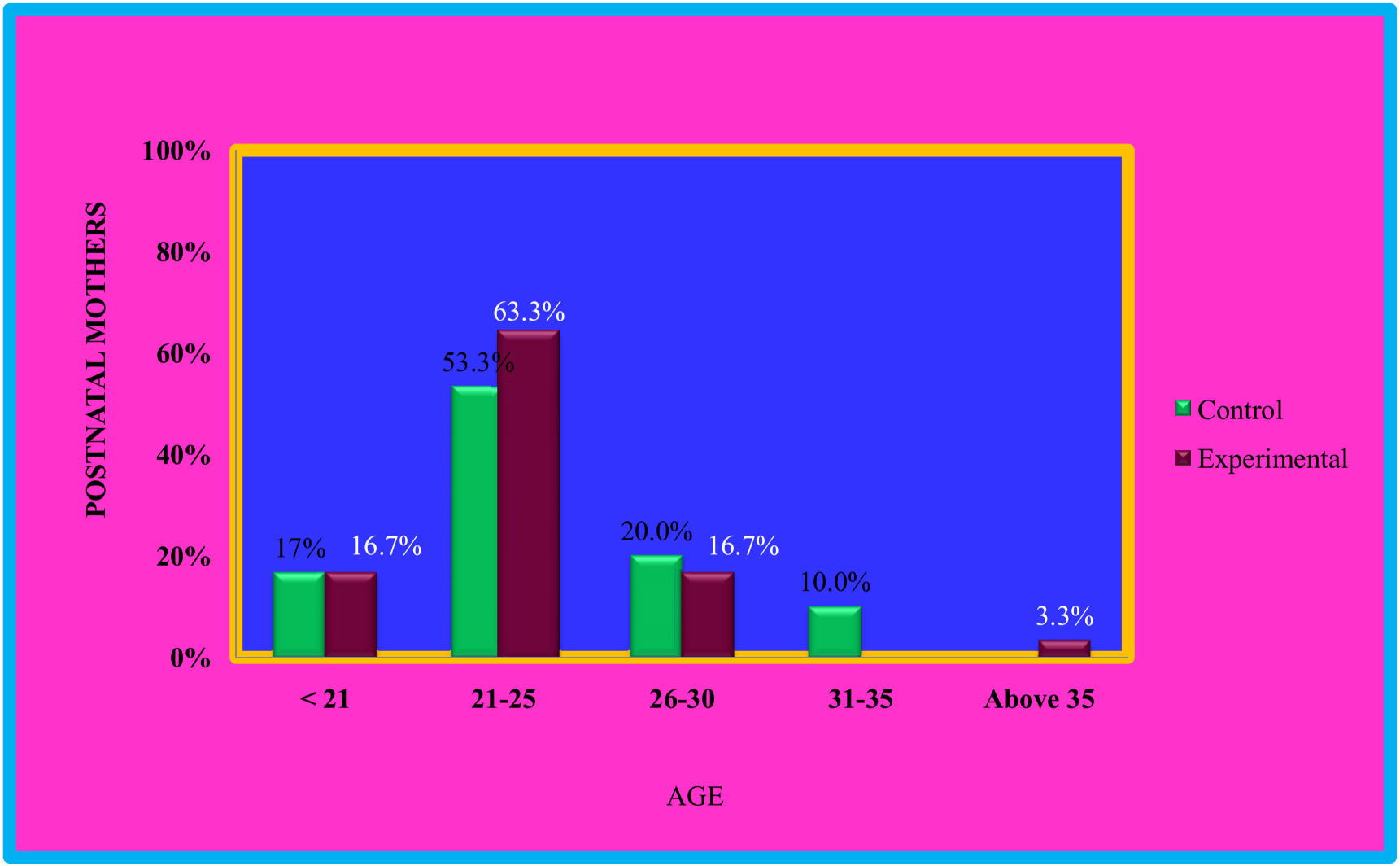


FIGURE 4.1 AGE WISE DISTRIBUTION OF POSTNATAL MOTHERS

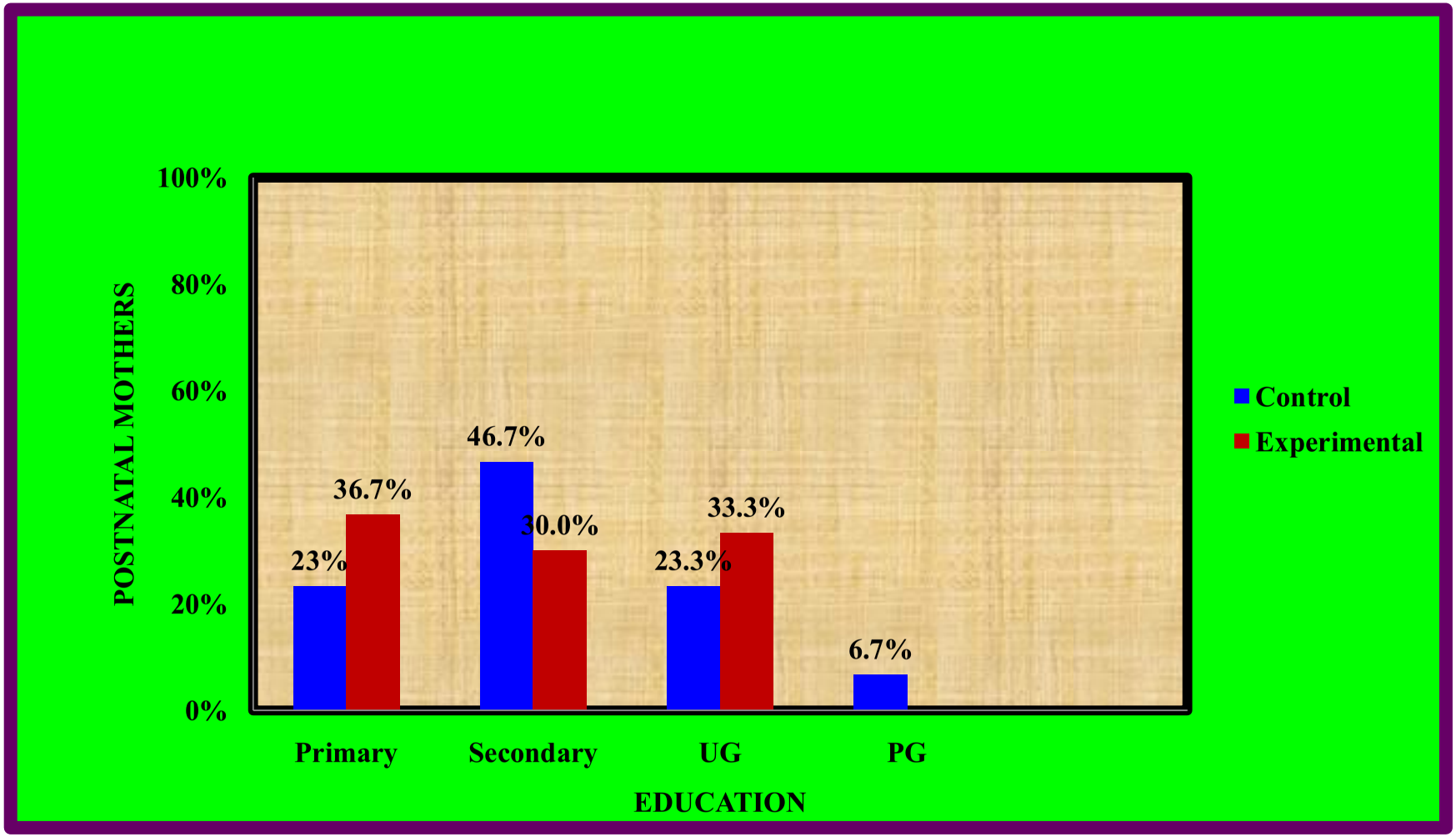


FIGURE 4.2 EDUCATION WISE DISTRIBUTIONS OF POSTNATAL MOTHERS

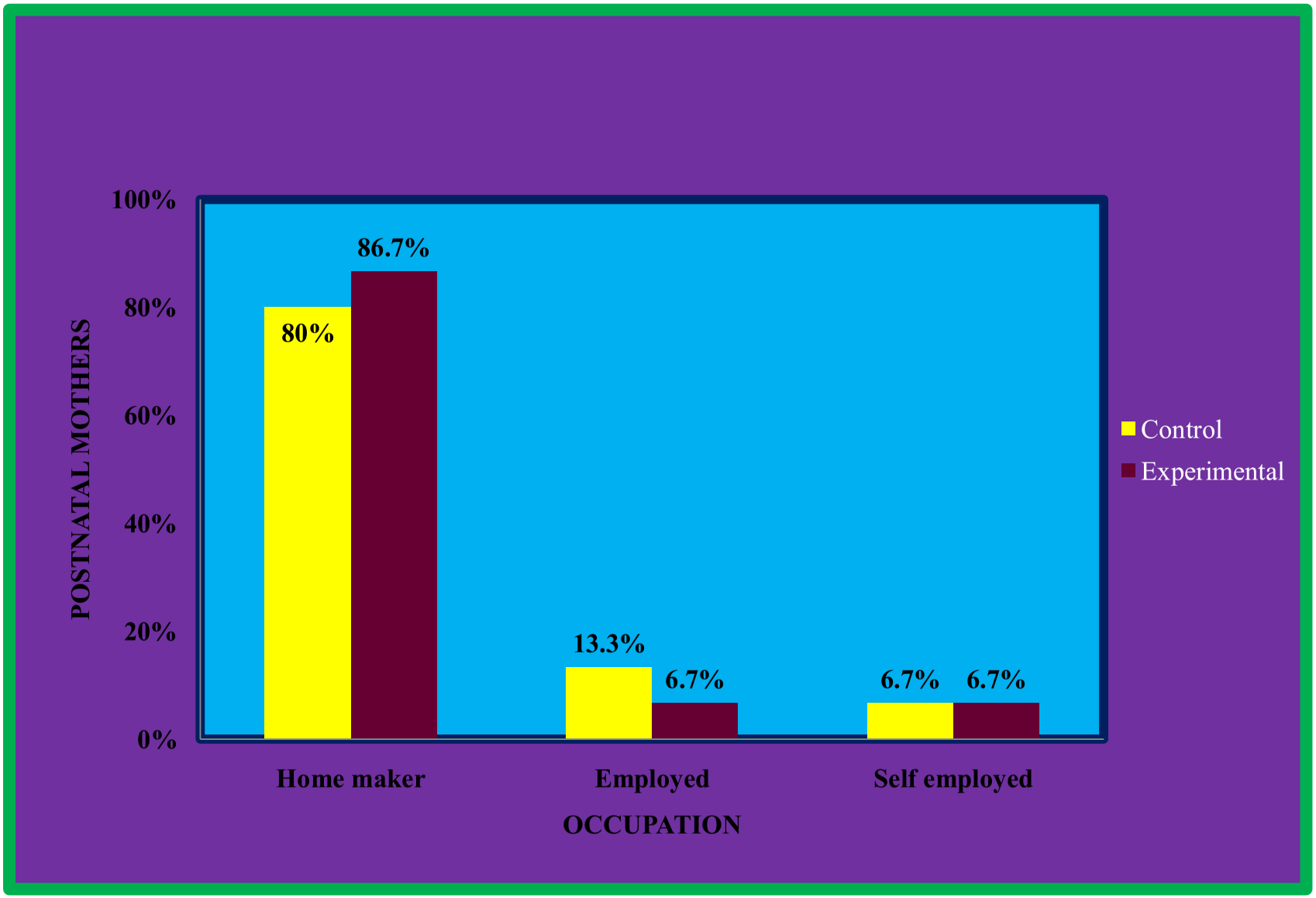


FIGURE 4.3 OCCUPATION WISE DISTRIBUTION OF POSTNATAL MOTHERS

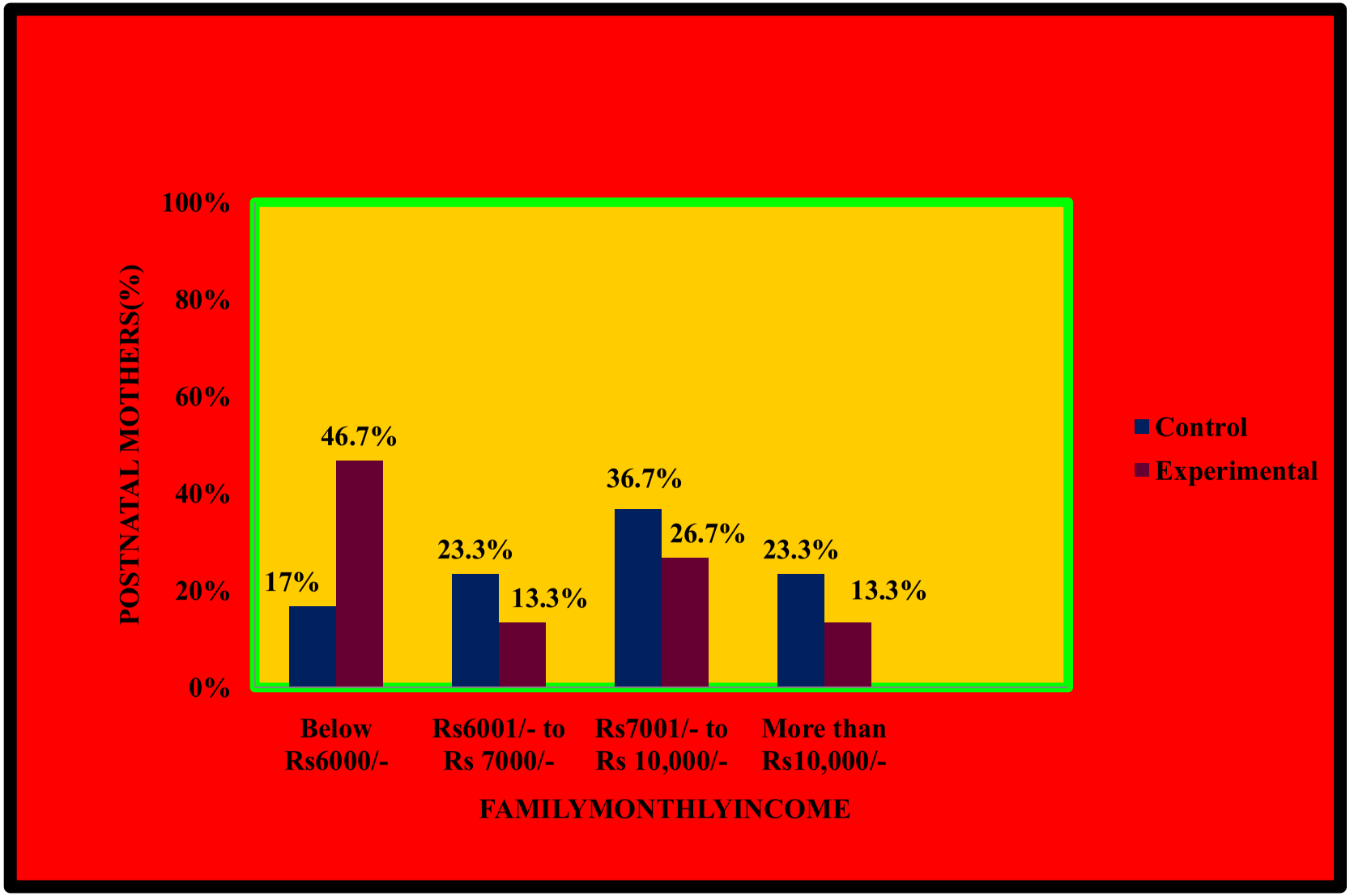


FIGURE 4.4 FAMILY INCOME WISE DISTRIBUTIONS OF POSTNATAL MOTHERS

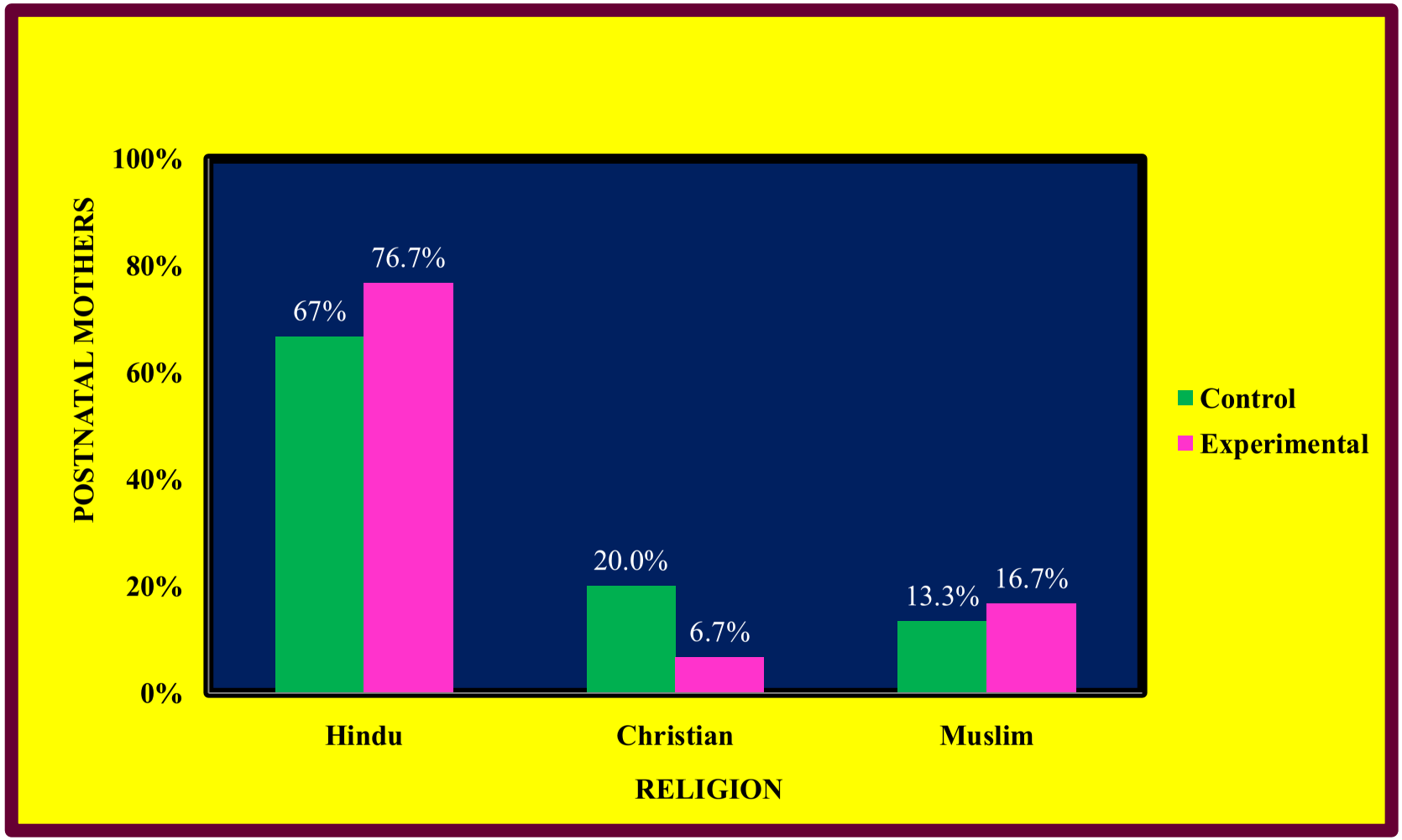


FIGURE 4.5 RELIGION WISE DISTRIBUTIONS OF POSTNATAL MOTHERS

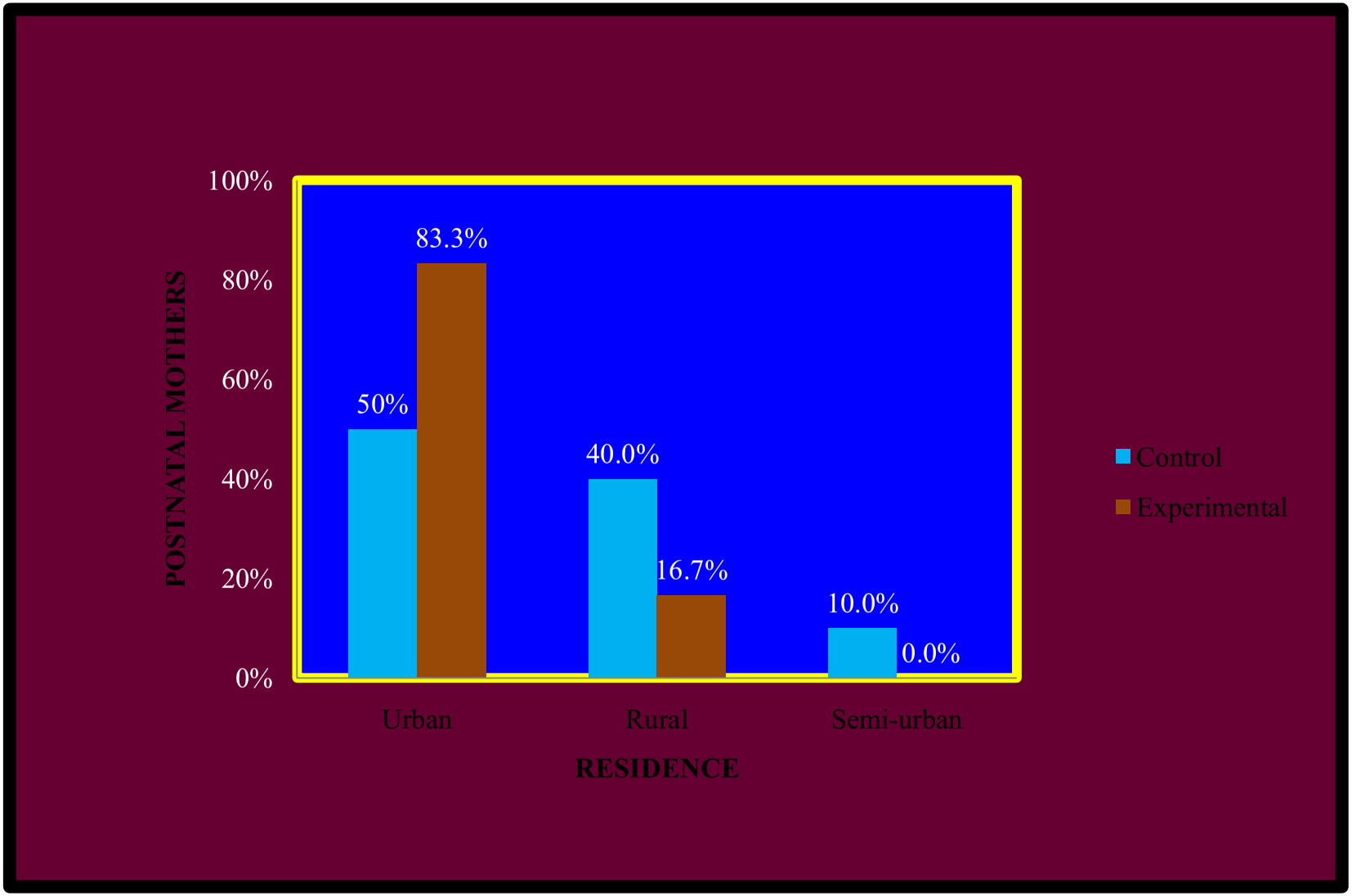


FIGURE 4.6 RESIDENCE WISE DISTRIBUTION OF POSTNATAL MOTHERS

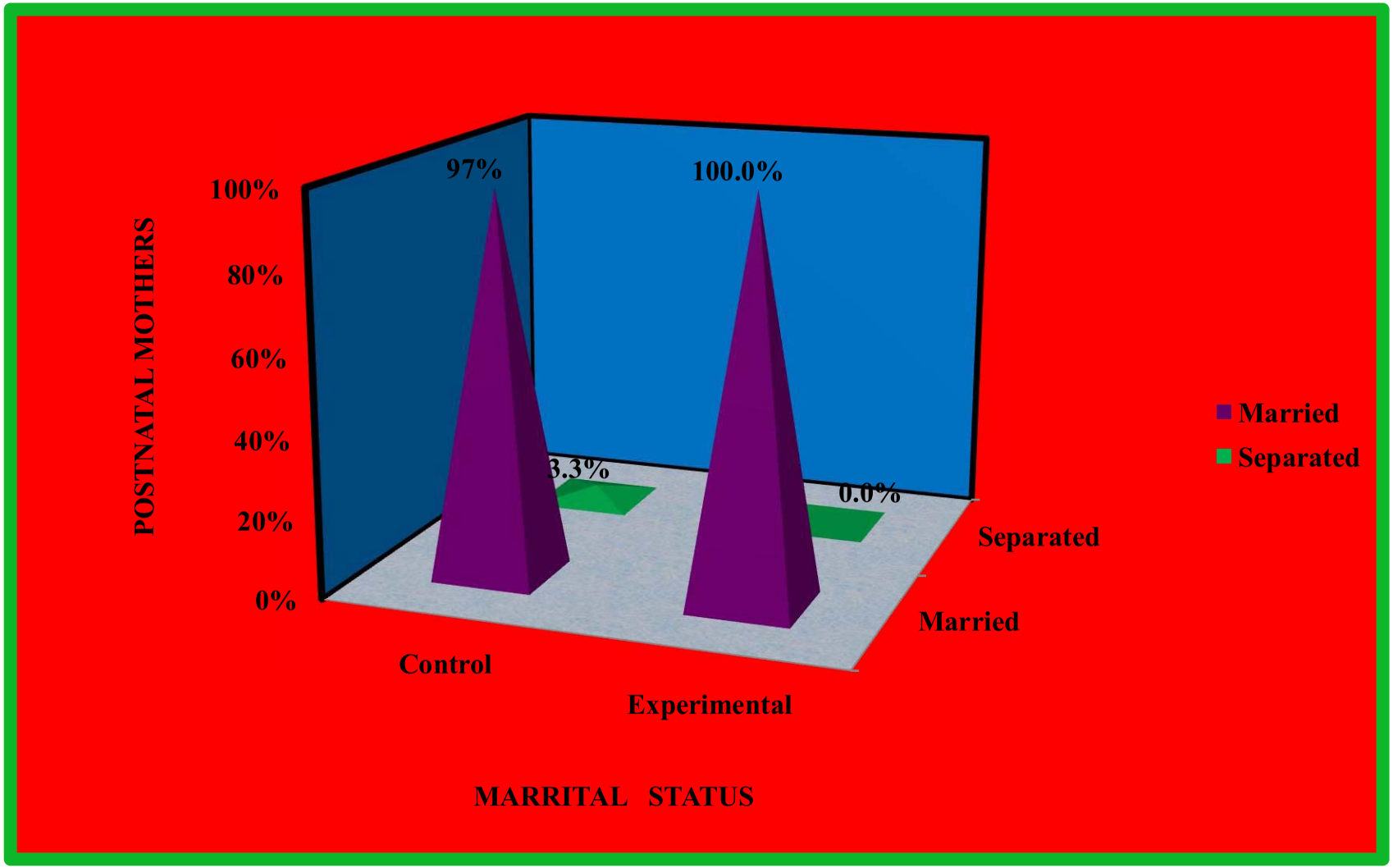


FIGURE 4.7 MARITAL STATUS WISE DISTRIBUTION OF POSTNATAL MOTHERS

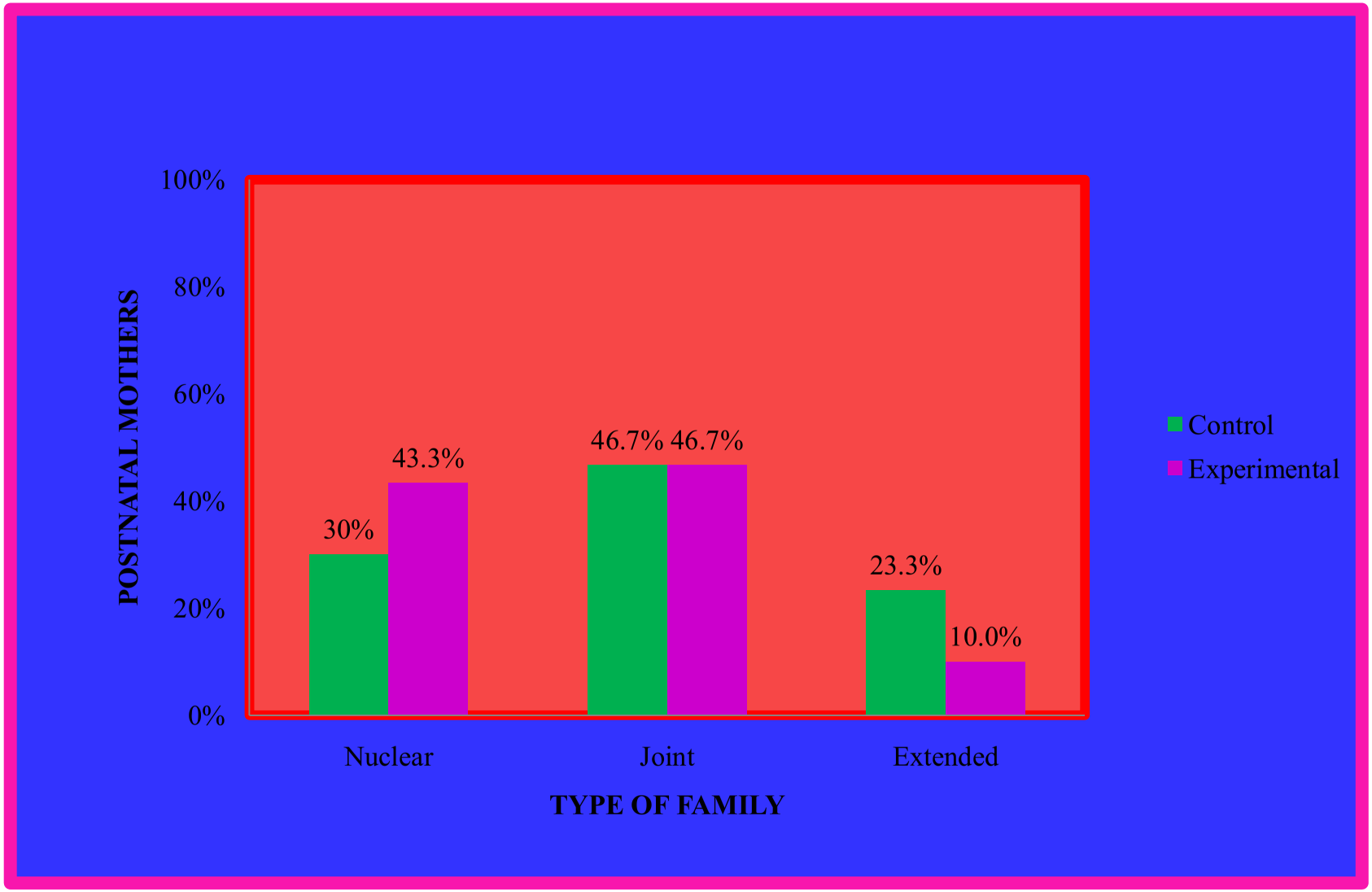


FIGURE 4.8 FAMILY WISE DISTRIBUTION OF POSTNATAL MOTHERS

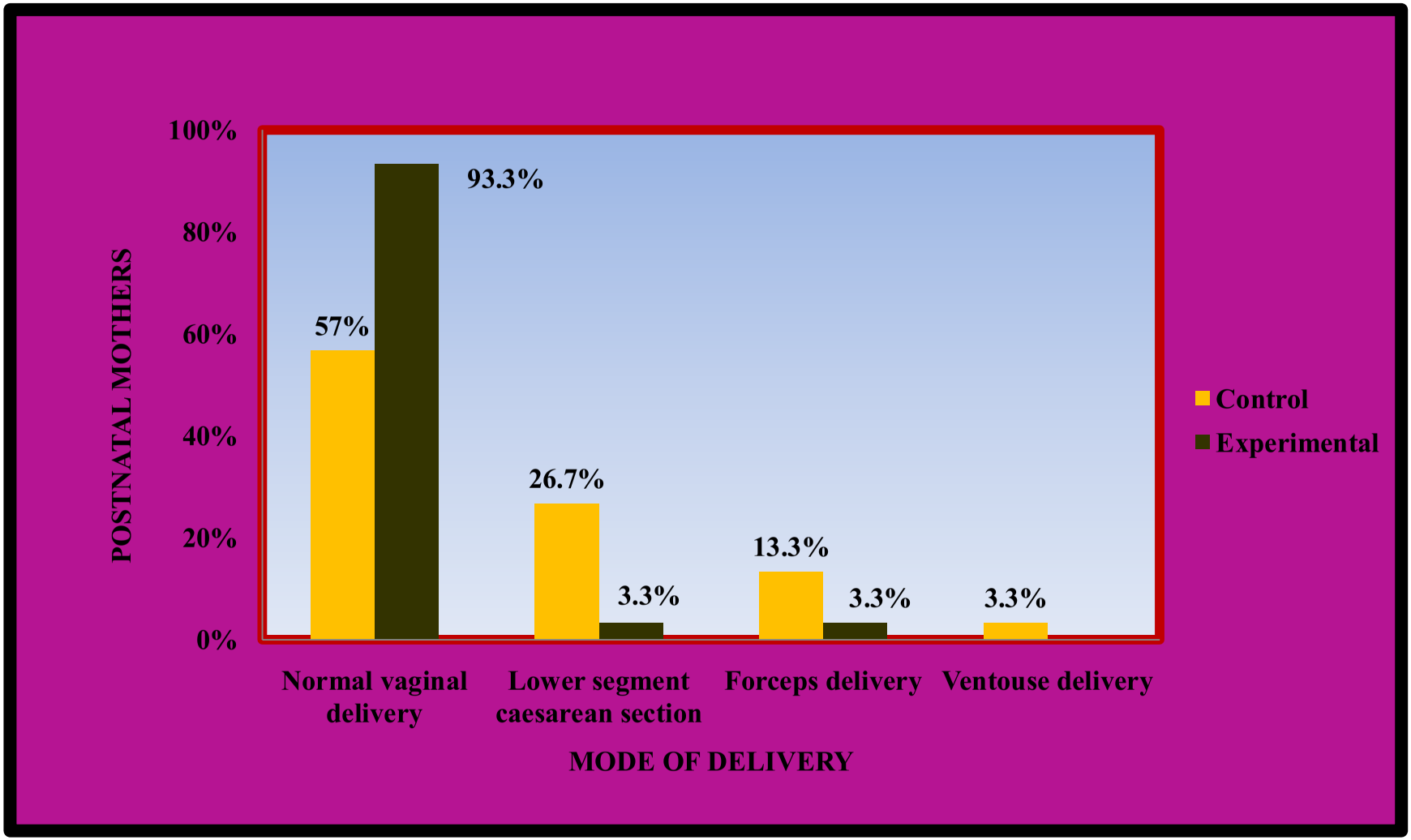


FIGURE 4.9 MODE OF DELIVERY WISE DISTRIBUTION OF MOTHERS

SECTION-I: B). This section describes the obstetrical related variable in the experimental and control group

Table4. 2: Distribution of obstetrical variables of postnatal mothers

Obstetric variables		**Control group**		**Experimental group**	
		Frequency	**in %**	**Frequency**	**in %**
Mode of delivery	Normal vaginal delivery	17	56.7	28	93.3
	Lower segment caesarean section	8	26	1	3.3
	Forceps deliver	4	13	1	3.3
	Ventouse delivery	1	3.3	0	0
Number of Children	One	22	73.3	24	80.0
	Two	8	26.7	5	16.7
	Three	0	0	1	3.3
Time of initiation of breast feeding	within half an hr	5	16.7	10	33.3
	within one hr	10	33.3	6	20.0
	1hr – 2hrs	9	30	9	30.0
	After 2 hrs	6	20	5	16.
Feeding pattern	Breast feeding	26	86.7	26	86.7
	Formula feeding	1	3.3	4	13.3
	Both A and B	3	10	0	0
Condition of nipple	Normal nipple	27	90	29	96.7
	Flat nipple	3	10	1	3.3

Table 4.2 shows the Obstetrical variable of women those who are participated in this study

With regards to the **Mode of delivery** in which (93.3%) were in normal vaginal delivery. In control group regarding mode of delivery 56.7% were normal vaginal delivery.

In view of experimental group, the **Number of parity** 80.0 % of the women has one baby. In control group, 73.3% were women were primi mothers.

Majority 86.7% of the mothers **feeding pattern** were breast milk in both experimental and control group.

In experimental group, regarding **Initiation of breast milk** 23.3% belongs to initiate within half an hour and in control group, 33.3% belongs to initiate within one hour

Majority of experimental group about **Condition of nipple** 96.7% of the mother is having normal nipple and 90.0% in control group.

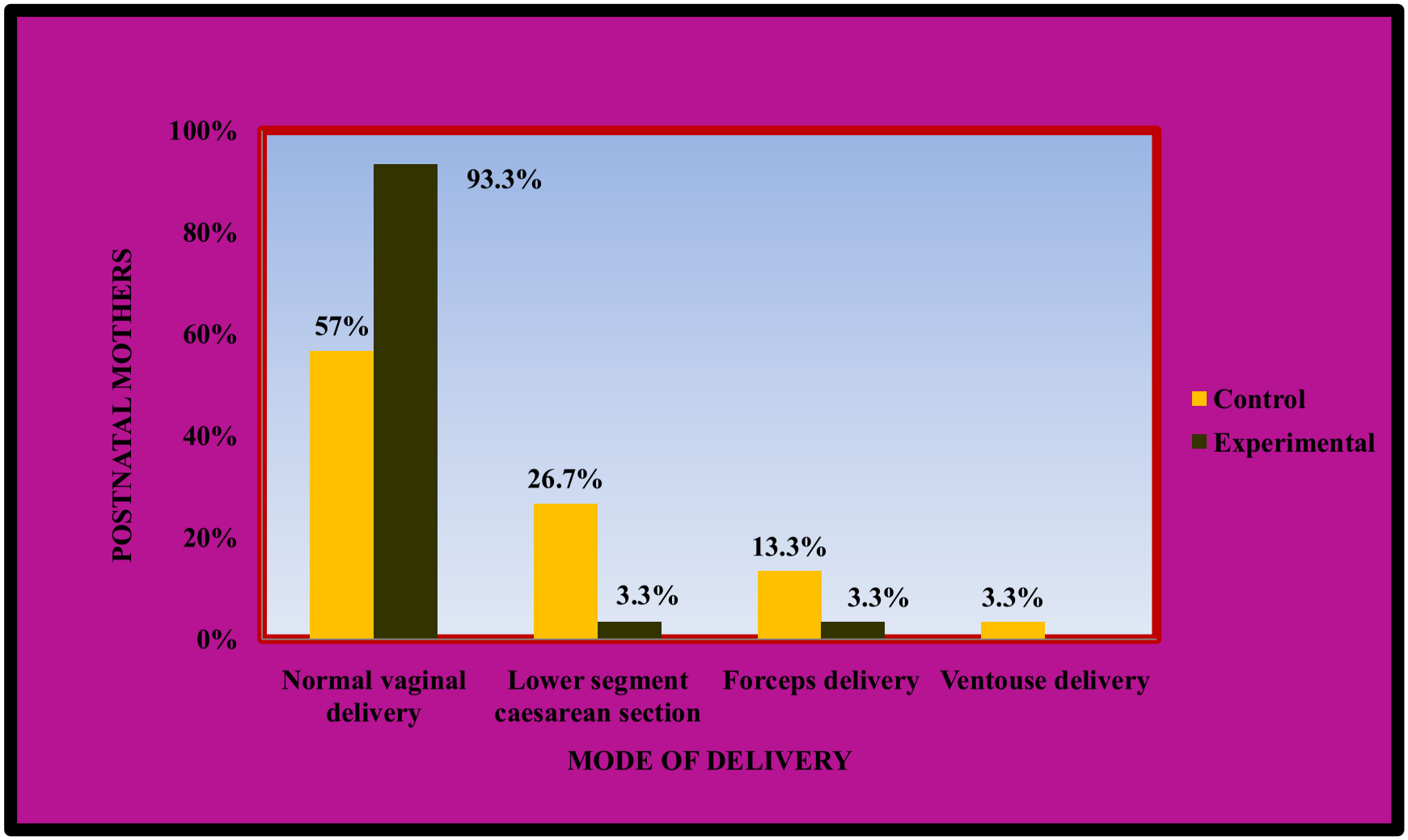


FIGURE 4.9 MODE OF DELIVERY WISE DISTRIBUTION OF MOTHERS

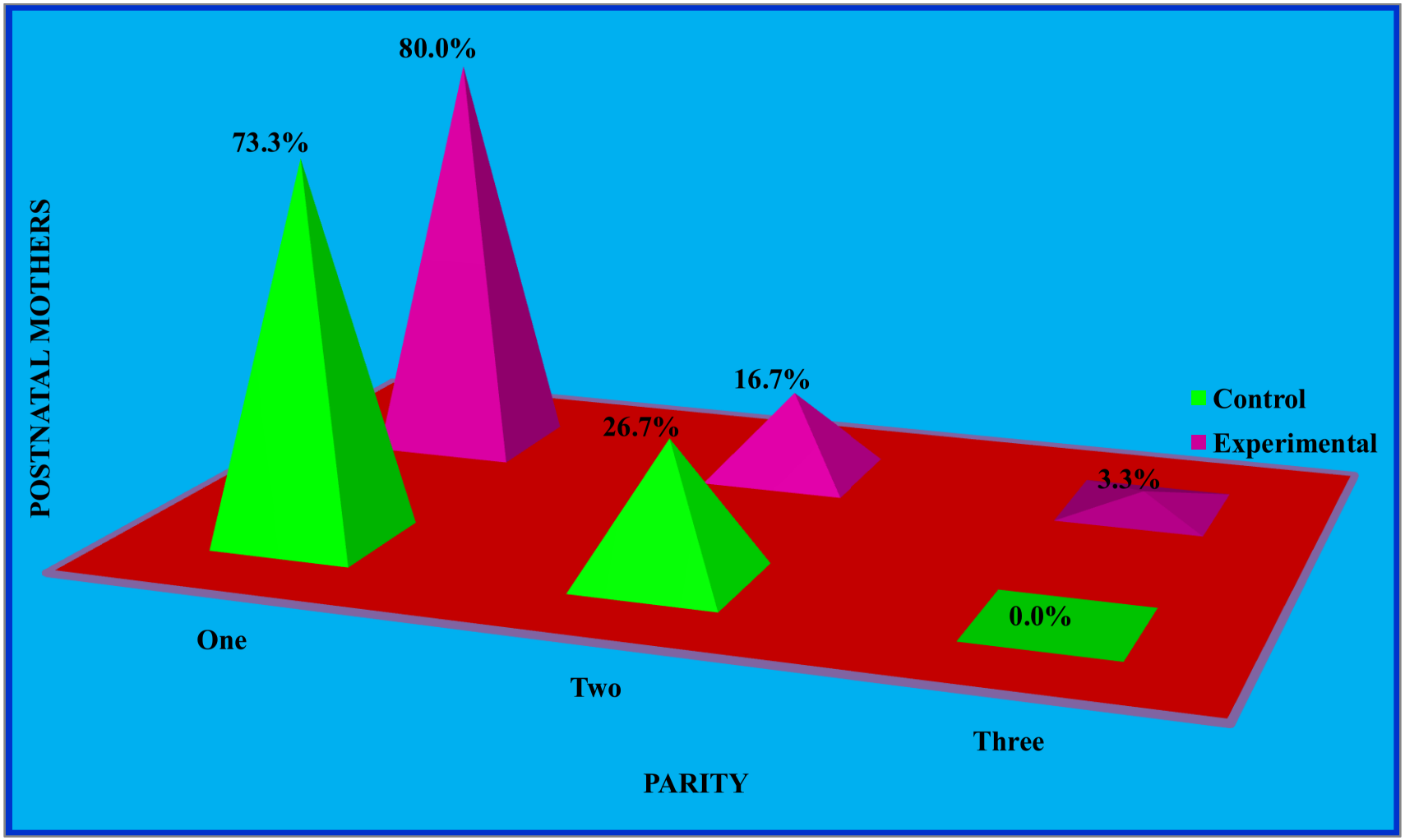


FIGURE 4.10 DISTRIBUTIONS OF MOTHERS ACCORDING TO NUMBER OF PARITY

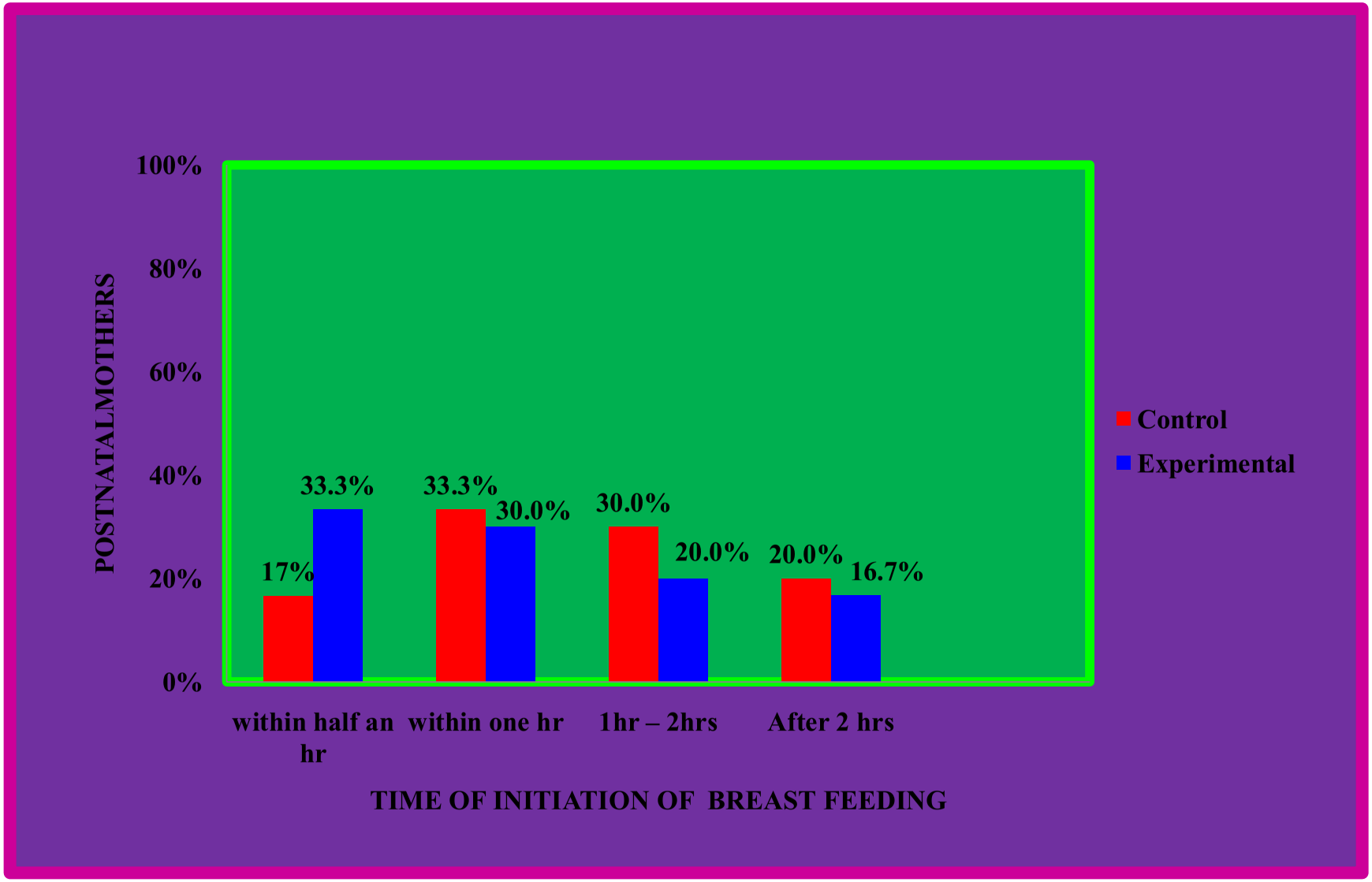


FIGURE 4.11 INITIATION OF BREAST FEEDING WISE DISTRIBUTION OF POSTNATAL MOTHERS

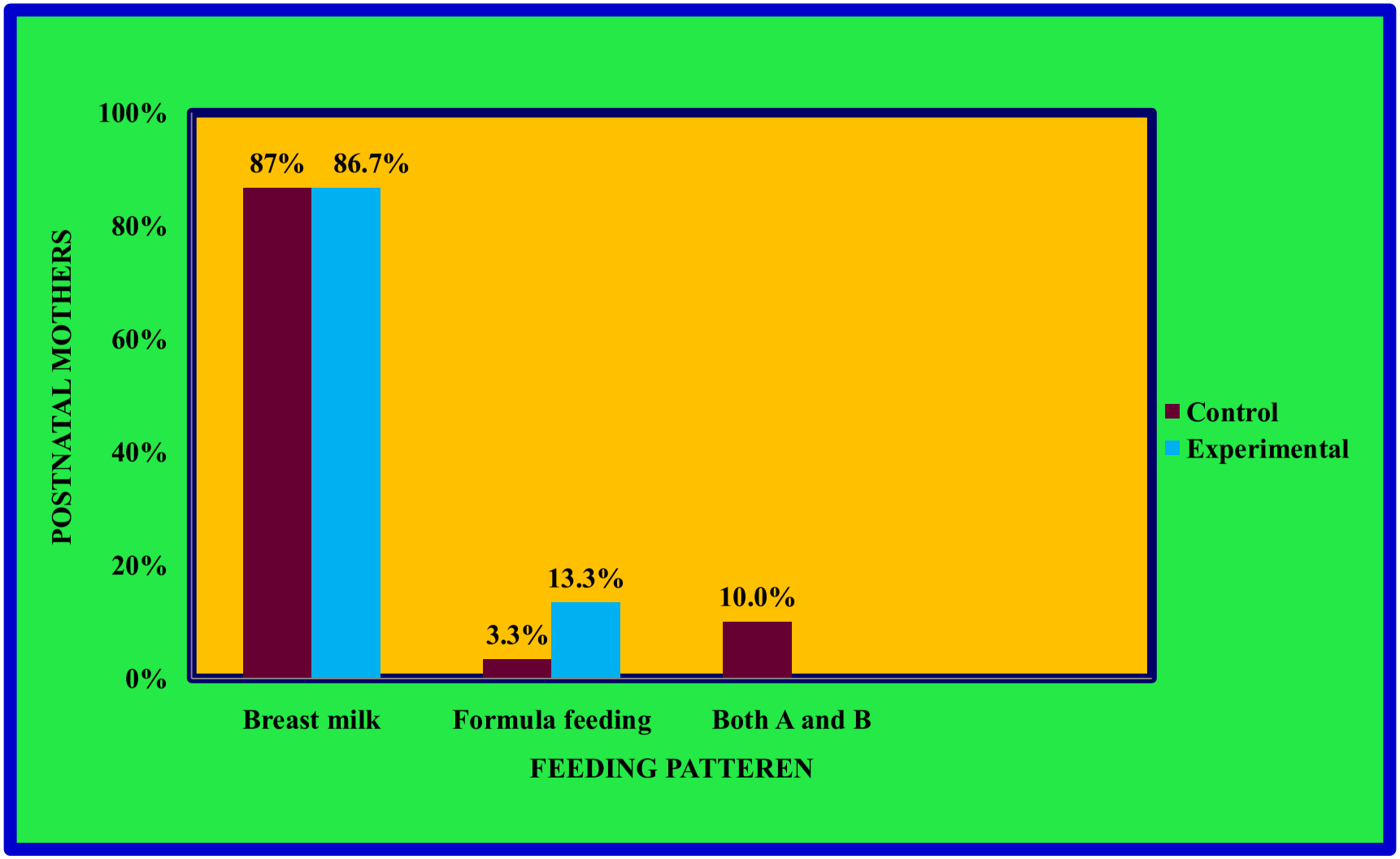


FIGURE 4.12 FEEDING PATTEREN WISE DISTRIBUTION OF POSTNATAL MOTHERS

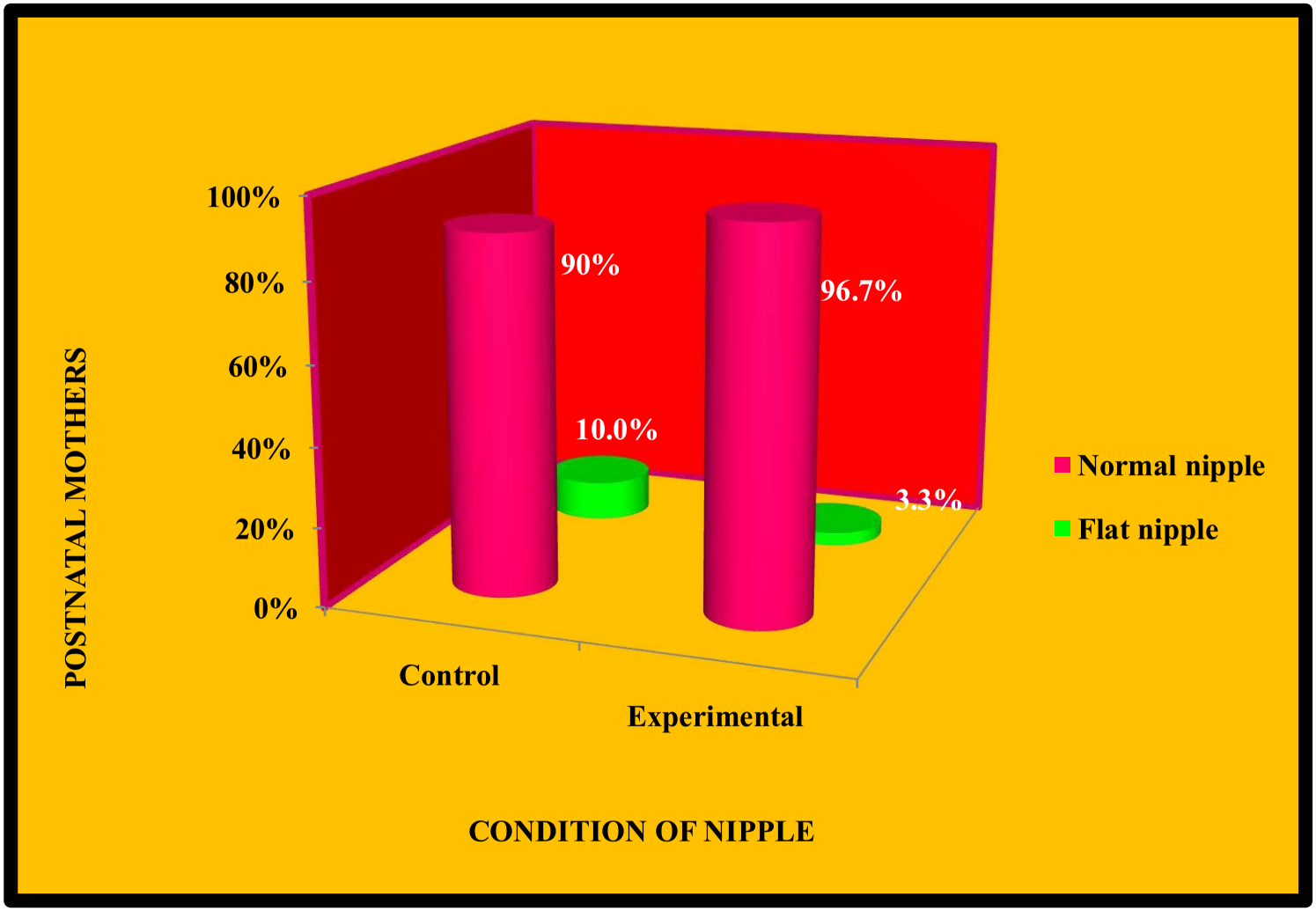


FIGURE 4.13 DISTRIBUTION OF CONDITION OF NIPPLE AMONG POSTNATAL MOTHERS

SECTION-I: C). This section describes the knowledge based information in the experimental and control group.

Table4. 3: Distribution of knowledge and practice based information of postnatal mothers

Knowledge based information		**Control group**		**Experimental group**	
		Frequency	**in %**	**frequency**	**in %**
Knowledge of breast feeding	Yes	13	43.3	17	56.7
	No	17	56.7	13	43.3
Knowledge regarding Health benefit of almond	Brain development	11	.7	9	30
	Promotion of breast milk	2	6.7	1	3.3
	Energy to body	15	50	14	46.7
	None	2	6.7	6	20

Table 4.3 shows the knowledge and practice based information of women those who are participated in this study.

Knowledge regarding other home **Remedies for breast milk** secreation ,majority, in experimental group 56.7% belongs to answered yes in experimental and 56.7% .in control group.

Knowledge regarding **Health benefits of almond** on experimental group 46.7% belongs to energy to the body 50.0% belongs to in control group.

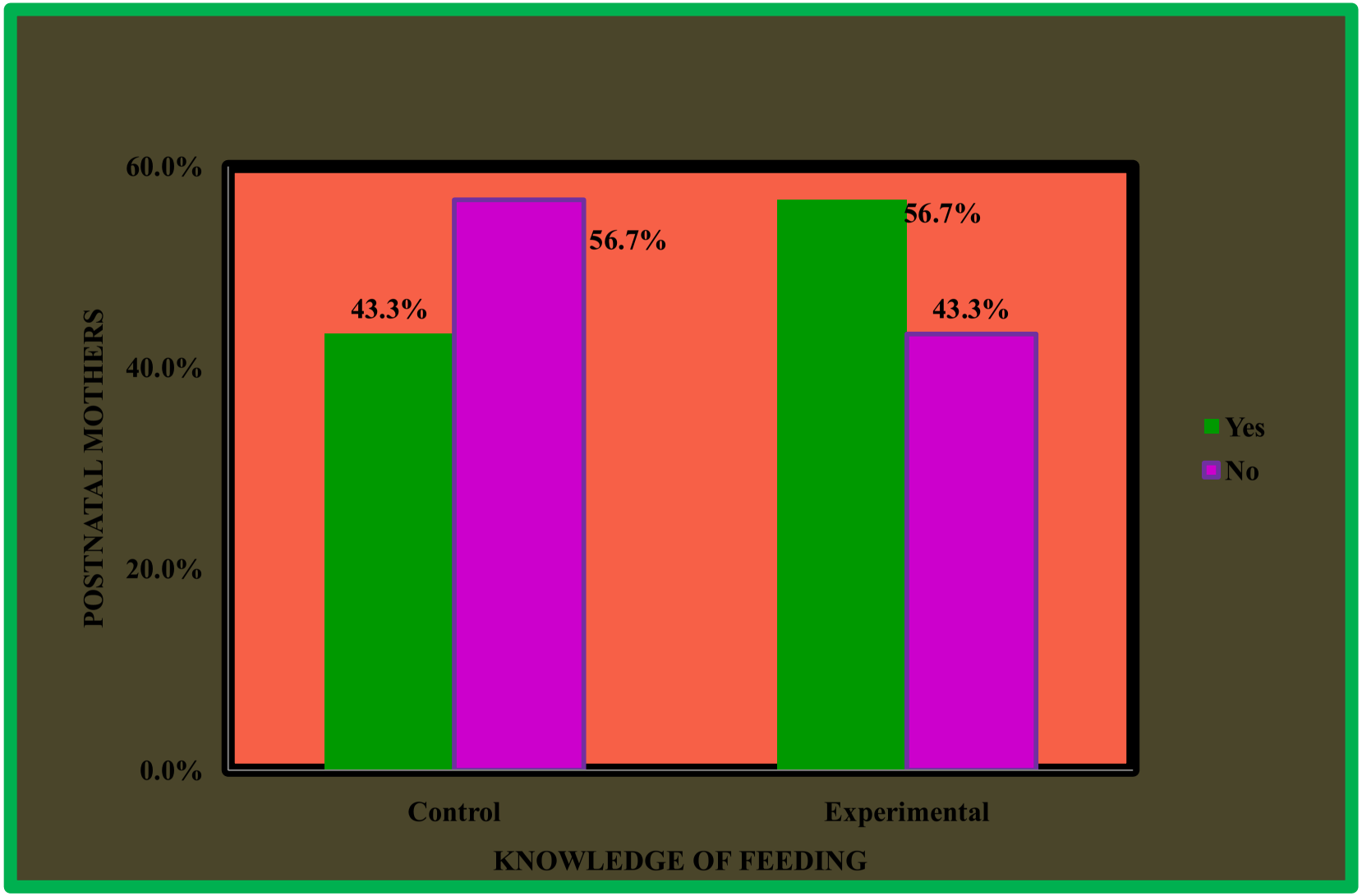


FIGURE 4.14. THE KNOWLEDGE REGARDING HOME REMEDIES OF BREAST FEEDING AMONG POSTNATAL MOTHERS

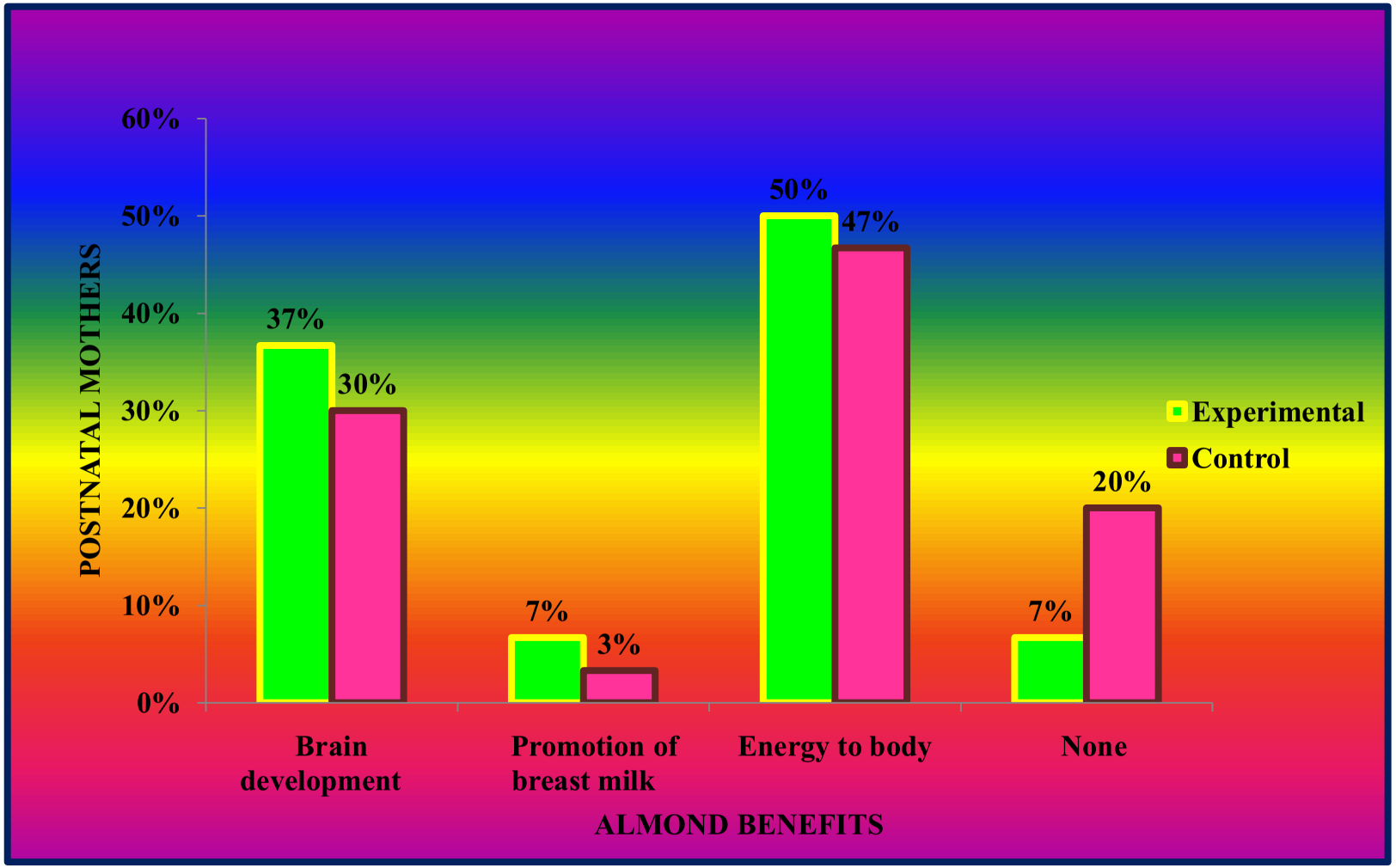


FIGURE 4.15 KNOWLEDGE ON HEALTH BENEFITS OF ALMOND AMONG POSTNATAL MOTHERS

SECTION II. A. Data on assessment of inadequacy of breast milk among postnatal mothers belonging to experiment and control group.

Table 4.4 shows the assessment of breast milk inadequacy on lactation in both groups

Pre assessment	Control group		Experimental group	
	(n) frequency	in %	(n) frequency	in %
In_ Adequate	29	96.7	25	83.3
Satisfactory	1	3.3	5	16.7
	30	100	30	100

The above table vividly expresses the assessment of breast milk inadequacy on lactation among postnatal mother in both experimental and control group were in inadequate level. Experimental group25 (83, 3%) inadequate and 5(16.7%) in satisfactory level .control group 29(96.7%) inadequate and1(3.3)were in satisfactory level

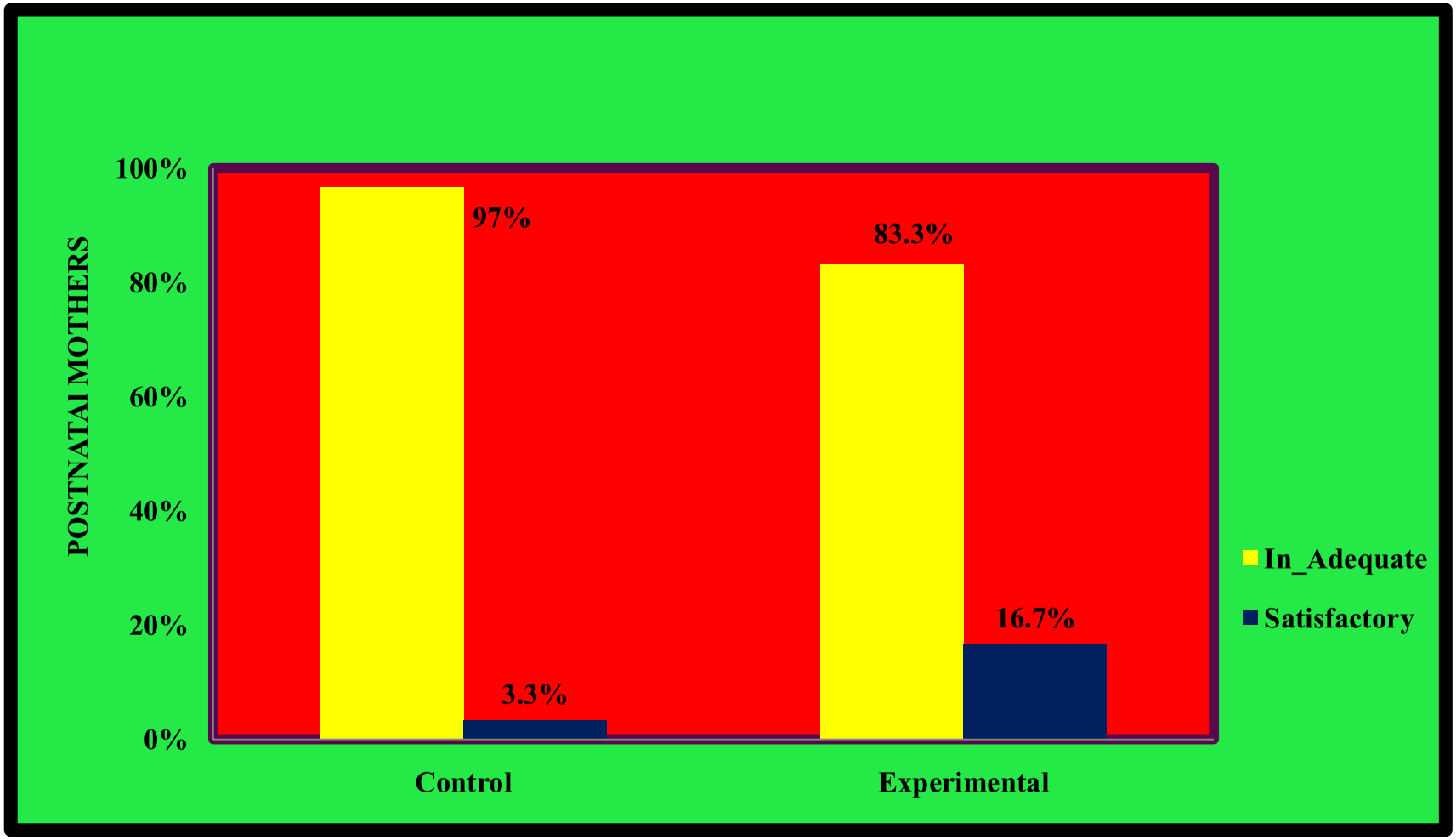


FIGURE-4.16 DISTRIBUTION OF ASSESSMENT LEVEL OF BREAST MILK INADEQUACY ON LACTATION BETWEEN EXPERIMENTAL AND CONTROL GROUP

SECTION-II: B) Data on post assessment of breast milk adequacy on lactation among post natal mothers receiving almond powder in experimental and control group.

Table 4.5 shows post assessment of breast milk adequacy on lactation.

Post assessment Level	Control group		Experimental Group	
	Frequency	in %	Frequency	in%
Satisfactory	30	100	4	13.3
Adequate	_	_	26	86.7
	30	100	30	100

Table 4.5 –shows the post assessment level of adequacy of breast milk on lactation both experimental and control group. Considering experiment group, 26 (86.7%) of them were in adequate level and only 4(13.3%) were in satisfactory level. Comparing to control group, 30(100%) of them were only in satisfactory level.

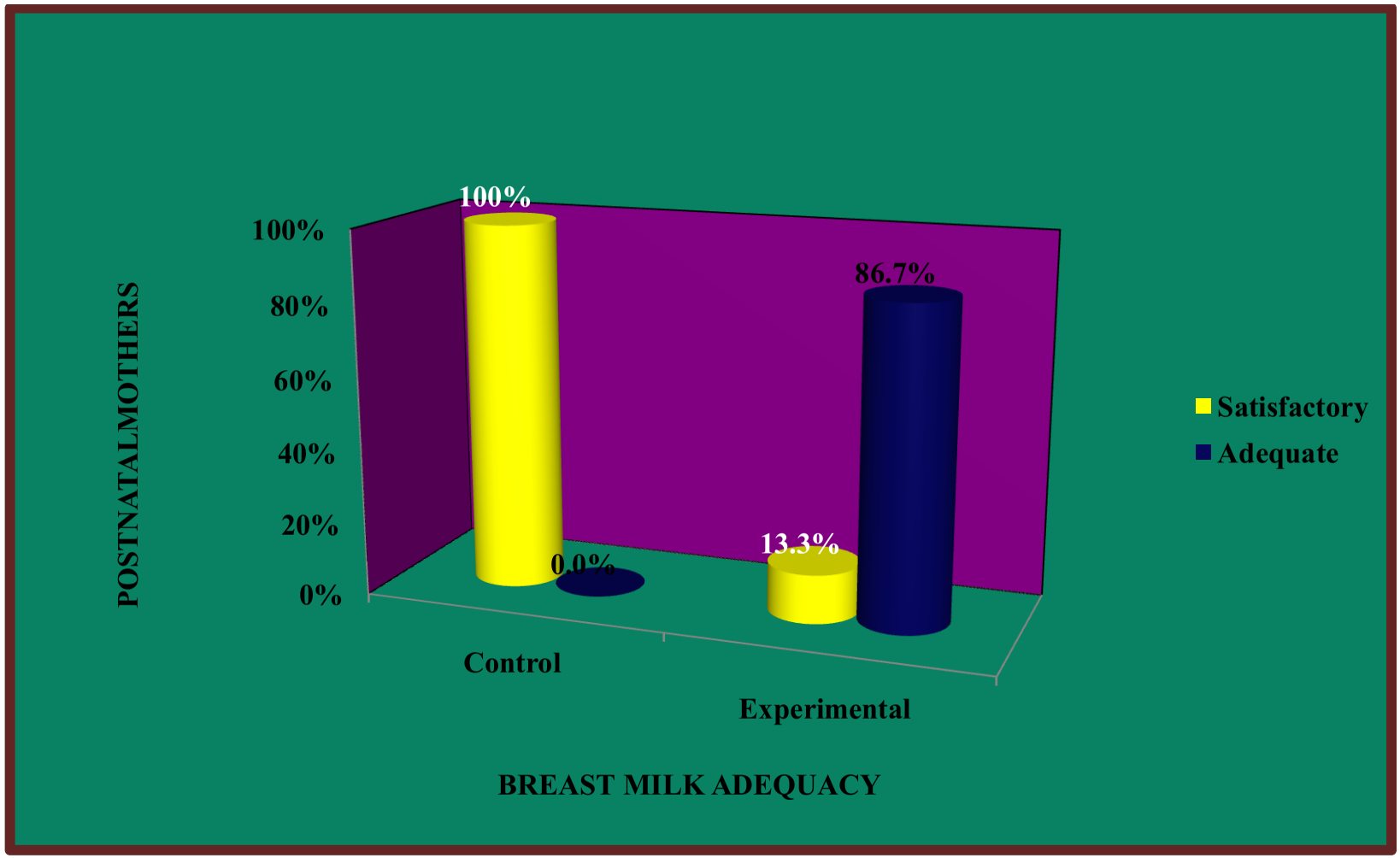


FIGURE-4.17 DISTRIBUTION OF POST ASSESSMENT LEVEL OF BREAST MILK ADEQUACY AFTER ALMOND POWDER AMONG EXPERIMENTAL AND CONTROL GROUP

SECTION III- Data on comparison of pre assessment and post assessment level breast milk adequacy among postnatal mothers between the experimental and control group.

Table 4.6 Mean comparison between experimental and control group using paired 't' test

Group		Mean	Std. Deviation	t value	P value
Control	post_ test	18.00	1.762	24.414	0.012
	pre_ test	10.07	1.388		
Experimental	Post_ test	26.17	1.599	40.389	0.001
	pre_ test	11.17	1.234		

* Significant at p <0.05

** Highly significant at p <0.01

*** Very high significant at p<0.001

Table no4.6 shows the Mean comparison of breast milk adequacy on lactation among experiment and control group .Considering control group the Mean value was 18.00 in experimental group the Mean value are 26.17. Statistical significance was calculated using student's paired -test.

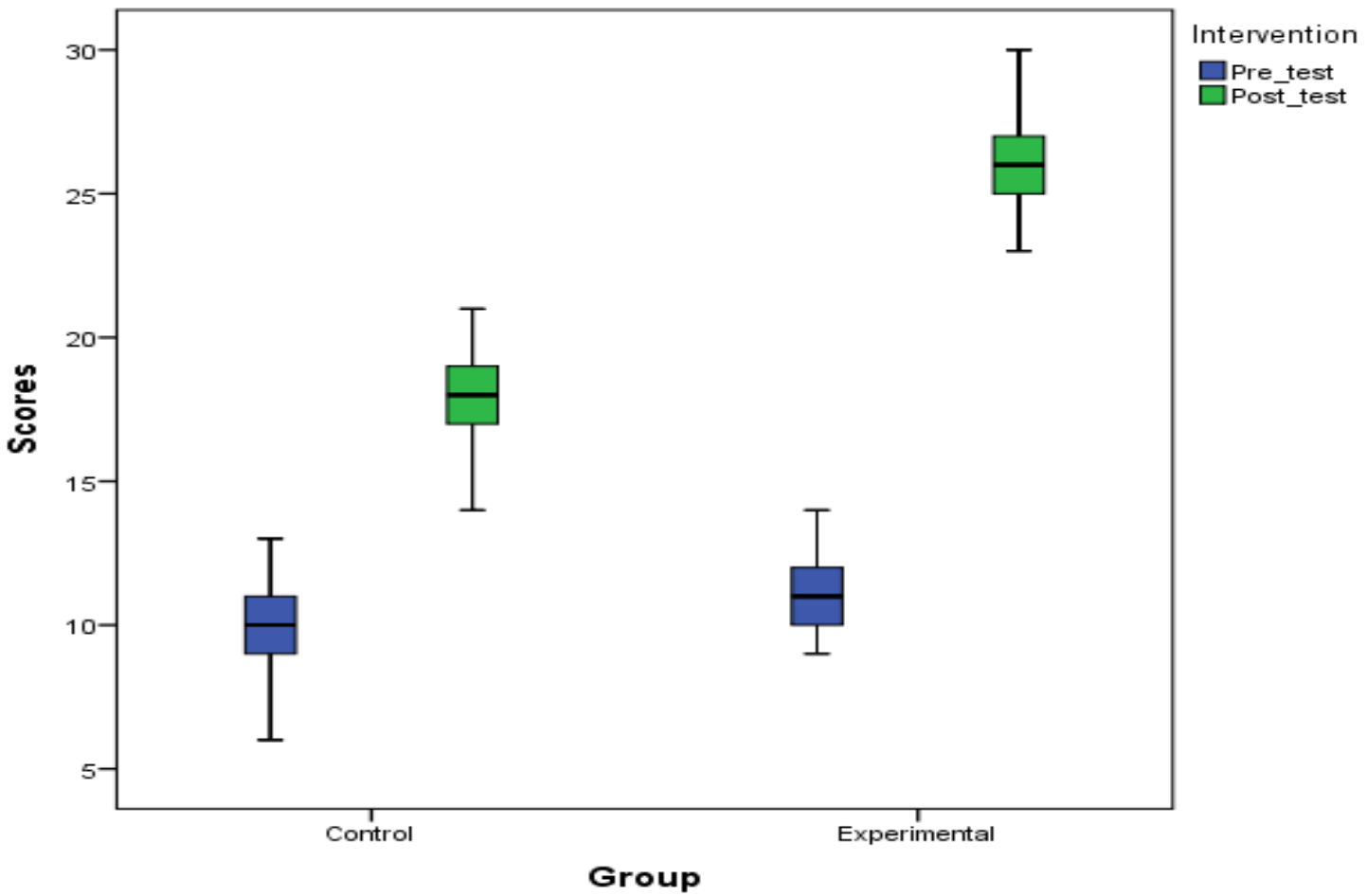


FIGURE 4.18 THE MEAN COMPARISON BETWEEN EXPERIMENTAL AND CONTROL GROUP BY USING PAIRED t" TEST

SECTION- IV Data on assessment of effectiveness of almond powder on adequacy of breast milk secreation among postnatal mothers in pre and post test of experimental group

Table 4.7 Effectiveness of almond powder among postnatal mothers in experimental group

" t " test for equality of mean										
Experimental group	**T**	**Df**	**Mean**	**Mean difference**	**Std deviation**	**Std error mean**	**Std Error difference**	**95% Confidence Interval of the Difference**		**p value**
								Lower	**Upper**	
Pre test	3.244	58	11.17	1.100	1.234	.255	.399	.421	1.779	**.002**
Post test	18.800	58	26.17	8.167	1.599	.292	.434	7.297	9.036	**.001**

* Significant at p<0.05 ** highly significant at p<0.01 *** very high significant at p< 0.001

Table 4.7 shows that considering the effectiveness on experimental group with pre test p value 0.002 and the post test p-0.001. There is a statistically significant in increased level of breast milk adequacy among postnatal mothers in experimental group.

SECTION-IV: Association of the effectiveness of almond powder with the selected demographical variables.

Table 4.8 Association between post assessment level of breast milk adequacy on lactation and Demographic variables (Experimental group)

Demographic variables		Level of breast milk adequacy on lactation				Total	Chi-square test
		Satisfactory		Adequate			
		Frequency	in%	Frequency	in %		
Age	< 21	1	25	4	15.4	5	$\chi 2$= 0.668 p = 0.881
	21-25	2	50	17	65.4	19	
	26-30	1	25	4	15.4	5	
	Above 35	0	0	1	3.8	1	
Education	Primary	2	50	9	34.6	11	$\chi 2$=2308 P=0.511
	Secondary	0	0	9	34.6	9	
	UG	2	50	8	30.8	10	
Occupation	Home maker	4	100	22	84.6	26	$\chi 2$=0.71 P=0.701
	Employed	0	0	2	7.7	2	
	Self employed	0	0	2	7.7	2	
Monthly income	BelowRs6000/-	2	50	9	34.6	11	$\chi 2$=2.4988 P=0.545
	Rs6001/-7000/-	0	0	5	20.2	5	
	Rs7001/10,000/	2	50	7	26.9	9	
	More Rs10,000/-	0	0	5	18.3	5	
Religion	Hindu	4	100	19	73.1	23	$\chi 2$=1.405 P=0.495
	Christian	0	0	2	7.7	2	
	Muslim	0	0	5	19.2	5	

Residency	Urban	3	75	22	84.6	25	Fisher exact 0.231 P=0.538
	Rural	1	25	4	15.4	5	

* Significant at p-0.05

** Highly significant at p-0.01

*** Very high significant at p-0.001

Table 4.8 shows the association between post assessments Level of breast milk adequacy among postnatal mothers in experiment group with their demographic variables. , None of the variables are significant, Statistical significance was calculated using chi square test.

Table 4.9 Association of post assessment level of breast milk adequacy on lactation and obstetrical variables (experimental group)

Obstetrical variables		Levels of breast milk adequacy				Total	Chi-square test
		Satisfactory		Adequate			
		Frequency	in %	Frequency	in%		
Mode of delivery	Normal vaginal delivery	4	10	24	92.3	28	$\chi 2=0.33$ P=0.848
	Lower segment Caesarean section	0	0.0	1	3.8	1	
	Forceps delivery	0	0.0	1	3.8	1	
Number of parity	One	3	75	21	80.8	24	$\chi 2=0.361$ P=0.835
	Two	1	25	4	15.4	5	
	Three	0	0	1	3.8	1	
Time of initiation breast feeding	Within half an hr	2	50	5	19.2	7	$\chi 2=6.009$ P=0.192
	within one hr	0	0	8	30.8	8	
	1hr – 2hrs	2	50	8	30.8	10	
Feeding pattern	Breast milk	4	100	22	84.6	26	$\chi 2=0.71$ P=0.546
	Formula feeding	0	0	4	15.4	4	
Condition of nipple	Normal nipple	4	100	25	96.2	29	$\chi 2=0.159$ P= 0.867
	Flat nipple	0	0	1	3.8	1	

* Significant at p-0.05

** Highly significant at p-0.01

*** Very high significant at p-0.001

Table 4.9 shows the association between post assessments Level of breast milk adequacy among postnatal mothers in experiment group with their demographic variables, obstetric variables. , None of the variables are significant, Statistical significance was calculated using chi square test.

SUMMARY

OF

THE

RESULTS

CHAPTER- V

SUMMARY OF RESULTS

5.1 Findings of demographic variables

With regards to the **Age** of postnatal mother's majority 19 (63.3%) was in the age group of 21-25 years. In control group regarding the age of the mothers majority 16 (53.3%) were in the age group of 21-25 years.

In view of regarding **Education,** 10 (33.3%) belongs to U.G education and in control group, 14(46.7%) belongs to secondary education.

Most of experimental group, **Occupation**, 26(86.7%) were home maker and in control group, 24(80.0%) were home maker.

With regards to the **Family monthly income** majority 11(36.7%) belongs to Rs 6000in experimental group and in control group 11(36.7%) belongs to 7000-10,000 Rs. /month.

Majority in experimental group, regarding religion 23 (76.7%) belongs to **Hindu** and in control group 20 (66.7%) belongs to Hindu religion.

In experimental group, regarding, **Residency** 25(83.3%) belongs to urban population and in control group 15(50.o %) were in urban population.

With regards to the **Marital status** 30(100%) belongs to married and in control group, regarding marital status 29(96.7%) belongs to married.

In experimental group, regarding **Type of family**14 (46.7%) belongs to joint family and in control group 14(46.7%) belongs to joint family.

Majority of mothers regarding **Food habits** 30(100%) belongs to mixed diet

5.2 Finding s of obstetric variables

With regards to the **Mode of delivery** in which (93.3%) were in normal vaginal delivery. In control group regarding mode of delivery 56.7% were normal vaginal delivery.

In view of experimental group, the **Number of parity** 80.0 % of the women has one baby. In control group, 73.3% were women were primi mothers.

Majority 86.7% of the mothers **feeding pattern** were breast milk in both experimental and control group.

In experimental group, regarding **Initiation of breast milk** 23.3% belongs to initiate within half an hour and in control group, 33.3% belongs to initiate within one hour.

Majority of experimental group about **Condition of nipple** 96.7% of the mother is having normal nipple and 90.0% in control group.

5.3 Findings of knowledge information

Knowledge regarding other home **Remedies for breast milk** secreation ,majority, in experimental group 56.7% belongs to answered yes in experimental and 56.7% .in control group.

Knowledge regarding **Health benefits of almond** on experimental group 46.7% belongs to energy to the body 50.0% belongs to in control group

5.4 Pre assessment of inadequacy level findings

The assessment of breast milk inadequacy on lactation among postnatal mother in both experimental and control group are in inadequate level. Experimental group25 (83, 3%) inadequate and 5(16.7%) in satisfactory level .control group 29(96.7%) inadequate and 1(3.3) were in satisfactory level.

5.3 Findings of knowledge information

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Knowledge regarding **Health benefits of almond** on experimental group 46.7% belongs to energy to the body 50.0% belongs to in control group **5.6 Findings of comparison and association between pretest and post test on experimental group.**

The Mean comparison of breast milk adequacy on lactation among experiment and control group .Considering control group the Mean value was 18.00 in experimental group the Mean value are 26.17. Statistical significance was calculated using student‘s paired t-test.

Considering the effectiveness on experimental group with pre test p value 0.002 and the post test p-0.001, .There is a statistically significant in increased level of breast milk adequacy among postnatal mothers in experimental group.

5.7 Findings regarding association of variables

The association between post assessments Level of breast milk adequacy among postnatal mothers in experiment group with their demographic variables, obstetric variables. None of the variables are significant, Statistical significance was calculated using chi square test.

The study reveals that the there is a significant increase in breast milk adequacy after intervene almond powder on lactation among postnatal mothers ,the statistical analysis shows that before and after intervention among experimental group , the difference of p - value for pre-test p- 0.002and post- test p- 0.002..Statistical significance was calculated using

DISCUSSION

CHAPTER – VI

DISCUSSION

This chapter deals with the discussion of the results of the data analyzed based on the objectives of the study. The main aim of the study is to assess the effectiveness of almond powder on lactation among postnatal mothers at Government IOG Hospital, Chennai.

The sample was 60 postnatal mothers. Out of which, 30 will be experimental group and 30 in control group. Samples were selected by using random sampling technique. Control group-level of breast milk adequacy will be assessed every day morning through modified tool for the adequacy on lactation. In experimental group Pre intervention level of breast milk adequacy assessed morning, and making the subjects to take almond powder orally for one times a day for five days then after finishing the 5day The post intervention level of breast milk adequacy will be assessed by the same tools after fifth day evening. .

The data consists of three sections, first section contains the demographic profile, the second section contains the obstetrical profile and the third section consists of effectiveness of almond powder on lactation .Data analysis and interpretation were done by using frequencies, percentage, mean and standard deviation, chi-square test, student's independent t-test.

The results of the study were discussed based on the objectives and the following supportive studies.

FINDINGS BASED ON THE OBJECTIVES

Objective1: To assess the level of breast milk inadequacy among postnatal mothers in the control and experimental group.

In this study, the pretest level of breast milk adequacy level shows that there is not much difference in adequacy level between experimental and control group. In experiment group, 83.3% of the women are having inadequate

level, and 16.7% having satisfactory level. In control group, 96.7%of the mothers are having inadequate and 3.3% of having only satisfactory level of breast milk adequacy on lactation.

Objective -2 To assess the breast milk adequacy on lactation among postnatal mothers in experimental and control group after intake of almond powder

In this study, the post test level of adequacy of breast milk on lactation both experimental and control group. Considering experiment group, 26 (86.7%) of them are in adequate level and only 4(13.3%) are in satisfactory level. Considering control group, 30(100%) of them are in satisfactory level onl

This study findings support with the study on **Elizabeth rani busi,(2008)**states that the breast milk adequacy on lactation among postnatal mothers using lactation scale was showed among 25 postnatal mothers in both group with that there was an adequate secreation of breast milk of mothers 18(75%)of post test .so there was an increased secreation of breast milk was statistically significant using chi square test.

objective-3 To assess the effectiveness of almond powder on lactation among postnatal mothers by comparing the control and experimental group.

In this study ,the Mean comparison of breast milk adequacy on lactation among experiment and control group .Considering control group the Mean value was 18.00 in experimental group the Mean value are 26.17 . Statistical significance was calculated using student‘s paired t-test.

In this study states *that considering the effectiveness on experimental group with pre test p value 0.002 and the post test p-0.001, .There is a statistically significant in increased level of breast milk adequacy among postnatal mothers in experimental group.*

My study consistent with the study of Bomfin Hyppollito (2002) investigated the various strategies used to manage breast milk inadequacy caused during lactation .Among 100 women who participated in the study 90% of them reported using more non-pharmacological method like almonds garlic ,dry fish, milk protein etc) to manage breast milk in adequacy. The mean perceived effectiveness of this method was 70%.offered effective for breast milk secreation. The effectiveness has statistically proved that the p-value 0.03% level of significant

Objective 4: To find out the association between the breast milk adequacy among postnatal mothers with selected variable in the experimental group.

The association between post assessments Level of breast milk adequacy among postnatal mothers in experiment group with their demographic variables. And obstetric variables. . None of the variables are significant, Statistical significance was calculated using chi square test.

CONCLUSION AND RECOMMENDATIONS

CHAPTER – VII

CONCLUSION AND RECOMMENDATION

The present study assessed the effectiveness of almond powder on adequacy of breast milk on lactation. The results revealed that almond powder had a significant effect in promotion of breast milk adequacy among postnatal mothers. The experimental group had adequate level of perception of breast milk secreation than the control group .control groups are met the satisfaction effect than the experimental group.

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7.1 Implications of the study

The vital concern in the field of nursing practice, nursing administration nursing education, , and nursing research.

i)) Nursing practice

Nurses play a vital role in breastfeeding, since many of the adolescent girls are having feeding problem. Nurses must have adequate knowledge regarding other non pharmaceutical lactation management like almond powder which is effective in lactation.

Nurses should possess the skill of assessing the lactation level using modified tool for adequacy on lactation and specific lactation management like almond powder may be given in increasing the breast milk adequacy on lactation. Almond powder can also be introduced as a policy for non pharmaceutical management

ii) Nursing administration

Nursing administrators or leaders should take interest in formulating principles and adapting the various modalities of non pharmacological management for lactation. Through in-service education programme, nursing personnel can be motivated to learn and practice on management of lactation in the hospital and community settings, with modern technological video aids to gain adequate knowledge and practice about the almond powder.

Nurse administrators must allocate resources for conducting various staff development programmes and should provide opportunity for the nurses to attend the national and international conferences**.**

iii)Nursing education

Nursing curriculum is a means through which future nurses are prepared and it emphasis needs to be preventive and promotive health practice. The results of the study emphasis the learners to utilize the knowledge and practice of almond powder on lactation. As a nurse educator, we must strengthen the concept of non-pharmacological methods for promotion of breast feeding among postnatal mothers.

Nursing students should be exposed to these areas and learn regarding these interventions. The basic nursing curriculum must be modified to motivate the students to do this do this type of intervention in large population.

iv) Nursing research

Research in almond powder will support the basic importance of the increasing breast milk among postnatal mothers and supportive evidence regarding effectiveness of almond powder. Research related to utility of almond powder for different age group and different kind of physical problems. Thus, promoting the utilization of the research findings by the health provider in the delivery of comprehensive health of the humans.

Nurse researcher must make arrangement to make use of available resources and guidance and constant support for the clinical nurse to undertake research activities on almond powder. Periodic review of research findings and disseminate the findings through conferences, seminars and publications in professional, national and international journals and in the World Wide Web.

7.2 Limitations

A similar study can be done for large samples with large setting

The study period can be prolonged more than four week

7.3 Recommendations:

- A similar study can be replicated for mothers with difference age group and their findings can be generalized to a large group.
- A comparative study can be conducted with almond oil massage and almond powder to promote breast milk adequacy on lactation .
- A comparative study can be conducted between various alternative complementary methods to increase lactation among postnatal mothers. An exploratory study can be conducted to find out the effect of almond powder for other problems..
- The study can be conducted to assess the knowledge and practice of the nurses regarding providing almond powder on lactation.
- A similar study can be conducted by providing almond from the antenatal period to assess the effectiveness on lactation

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APPENDICIES

Appendix 1: Certificate for approval from Institutional Ethic committee

INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE, CHENNAI-3

EC Reg No.ECR/270/Inst./TN/2013
Telephone No. 044 25305301
Fax : 044 25363970

CERTIFICATE OF APPROVAL

To
Mrs.A. JOSEPHINE CARMEL RANI
M.Sc., (Nursing)
College of Nursing
Madras Medical College,
Chennai – 600 003.

Dear Mrs.A. JOSEPHINE CARMEL RANI ,

The Institutional Ethics Committee has considered your request and approved your study titled, **" A STUDY TO ASSESS THE EFFECTIVENESS OF ALMOND POWDER ON LACTATION AMONG POSTNATAL MOTHERS IN GOVERNMENT INSTITUTE OF OBSTETRICS AND GYNAECOLOGY AND HOSPITAL FOR WOMEN AND CHILDREN, EGMORE". No.03102014.**

The following members of Ethics Committee were present in the meeting held on 21.10.2014 conducted at Madras Medical College, Chennai-3.

1. Dr.C.Rajendran, M.D., : Chairperson
2. Dr.R.Vimala, M.D., Dean, MMC, Ch-3 : Deputy Chairperson
3. Prof.B.Kalaiselvi, M.D., Vice-Principal, MMC, Ch-3 : Member Secretary
4. Prof.R.Nandhini, M.D., Inst.of Pharmacology, MMC : Member
5. Prof.K.Ramadevi, Director i/c, Inst.of Biochemistry, MMC : Member
6. Prof.Saraswathy, M.D., Director, Pathology, MMC, Ch-3 : Member
7. Prof.S.G.Sivachidambaram, M.D., Director i/c, Inst.of Internal Medicine, MMC : Member
8. Dr.Balakrishnan, M.S., Director, Inst.of Surgery, MMC : Member
9. Thiru S.Rameshkumar, Administrative Officer : Lay Person
10. Thiru S.Govindasamy, B.A., B.L., : Lawyer
11. Tmt.Arnold Saulina, M.A., MSW., : Social Scientist

We approve the proposal to be conducted in its presented form.

The Institutional Ethics Committee expects to be informed about the progress of the study and SAE occurring in the course of the study, any changes in the protocol and patients information/informed consent and asks to be provided a copy of the final report.

Member Secretary, Ethics Committee

MEMBER SECRETARY
INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLE
CHENNAI-6

Appendix 2: Certificate of Content Validity

CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool constructed by Ms. **A.Josephine Carmel Rani**, Msc Nursing II year, College of Nursing, Madras Medical College, which is used in her study title **"A STUDY TO ASSESS THE EFFECTIVENESS OF ALMOND POWDER ON LACTATION AMONG POSTNATAL MOTHERS AT INSTITUTE OF OBSTETRICS AND GYNECOLOGY AND GOVERNMENT HOSPITAL FOR WOMEN AND CHILDREN, EGMORE, CHENNAI-8"** has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then she can proceed to do the research.

SIGNATURE WITH SEAL

Name : KANAGAVALLI.P

Designation : Reader

College : Madha College of Nursing

Date : 16/7/15

Place : Chennai - 69.

MADHA COLLEGE OF NURSING
16 JUL 2015
CHENNAI - 600 069

CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool constructed by Ms. **A.Josephine Carmel Rani**, Msc Nursing II year, College of Nursing, Madras Medical College, which is used in her study title "**A STUDY TO ASSESS THE EFFECTIVENESS OF ALMOND POWDER ON LACTATION AMONG POSTNATAL MOTHERS AT INSTITUTE OF OBSTETRICS AND GYNECOLOGY AND GOVERNMENT HOSPITAL FOR WOMEN AND CHILDREN, EGMORE, CHENNAI-8"** has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then she can proceed to do the research.

SIGNATURE WITH SEAL

Assistant Surgeon
I.O.G. & Government Hospital
For Women and Children
Egmore, Chennai-8

Name : Dr. S. KALINA

Designation : Assistant Professor

College :

Date :

Place :

Appendix 3: Modified tool for adequacy of breast milk

TOOLS
PART-A.

DEMOGRAPHIC VARIABLES

SAMPLE NO: _____

1. Age in years
   (a) >21years ( )
   (b) 21 – 25 years ( )
   (c) 26 – 30 years ( )
   (d) 31 – 35 years ( )
   (e) Above 35 years ( )

2. Educational status
   (a) Primary education ( )
   (b) Secondary education ( )
   (c) undergraduate ( )
   (d) post Graduation ( )

3. Occupational status
   (a) Home maker ( )
   (b) Employed ( )
   (c) Self employed ( )

4. Monthly income
   (a)Below Rs6000/- ( )
   (b)Rs6001/- to Rs 7000/- ( )
   (c)Rs7001/- to Rs 10,000/- ( )
   (d)More than Rs10,000/- ( )

5. Religion
   (a) Hindu ( )
   (b) Christian ( )
   (c) Muslim ( )
   (d) Others ( )

6. Residence
   (a) Urban ( )
   (b) Rural ( )
   (c) Semi-urban ( )

7. Marital Status
   (a) Married ( )
   (b) Separated ( )
   (c) Divorced ( )

8. Type of family
   (a) Nuclear family ( )
   (b) Joint family ( )
   (c) Extended family ( )

9. Type of diet
   (a) Vegetarian ( )
   (b) Non-vegetarian ( )
   (c) Mixed ( )

SECTION-B

Obstetrics variables

10. Mode of delivery
   (a) Normal vaginal delivery ( )
   (b) Lower segment caesarean section ( )
   (c) Forceps delivery ( )
   (d) Ventouse delivery ( )
11. Number of children
   (a) One ( )
   (b) Two ( )
   (c) Three ( )
   (d) More than three ( )

12.Initiation of breast feeding

(a) within half an hour ( )
(b) within one hour ( )
(c) 1hour – 2hours ( )
(d) After 2 hours ( )

13. Newborn feeding

(a) Breast milk ( )
(b) Formula feed ( )
(C) Both A and B ( )

14. Condition of the nipple

(a) Normal nipple ( )
(b) Inverted nipple ( )
(c) Crack nipple ( )
(d) Sore nipple ( )

SECTION –C

Knowledge based variables

15. Knowledge about alternative therapies to promote breast milk secretion, If yes, mention _____

(a) Yes ( )
(b) No ( )

(a) If yes, mention _____

(b) Source of information _____

16. .knowledge regarding health benefits of almond

Brain development ( )
Promotion of breast milk ( )
Energy to body ( )
None ( )

MODIFIED TOOL FOR ADEQUACY OF BREAST MILK SECREATION

SNO	ITEMS	0 Disagree	1 Mildly agree	2 Moderately agree	3 Strongly agree
1.	My baby attaches correctly on my breast while feeding.				
2.	My baby appears relaxed during feeding and satisfied after feeding				
3.	My baby appears awake ,alert, calm, between feedings				
4.	My baby falls asleep after feed and does not cry				
5.	My baby voids adequately (more than 6times/Day)				
6.	My baby has normal bowel movements (3-6 times/Day)				
7.	My baby sleeps well (at least2-3 hrs) after taking breastfeed				
8.	I hear audible swallowing sound while my baby takes breast feeding				
9.	I adequately breast feed my baby (at least 8-12 times a day)				
10.	I feel that my breast are full before feeding and empty after feeding				
11.	I could feel the milk dribbling from the breast.				
12.	I usually feed until the baby spontaneously comes off the breast				

KEY:

0-disagree

1-mildly agree

2-moderately agree

3-strongly agree

SCORES

0-12 In-Adequate

13-24 Satisfactory

25-36 Adequate

செவிலிய கல்லூரி, சென்னை மருத்துவ கல்லூரி

சமுதாய நேர்காணல் படிவம்
பகுதி -அ
சுய விபர கேள்வி தாள்

மாதிரி எண்------

1. வயது
   (அ)21 வயதிற்குள் ( )
   (ஆ) 21 முதல் 25 வரை ( )
   (இ) 26 முதல்30 வரை ( )
   (ஈ) 31 முதல்35 வரை ( )
   (உ) 35 வயதிற்கு மேல் ( )

2. கல்வி விவரம்
   (அ ஆரம்ப நிலைக்கல்வி ( )
   (ஆ)மேல்நிலைக் கல்வி ( )
   (இ) பட்டப் படிப்பு ( )
   (ஈ)பட்டயப் படிப்பு ( )

3. தொழில் விவரம்
   (அ) இல்லத்தரசி ( )
   (ஆ) வேலைக்குச் செல்பவர் ( )
   (இ) வேலைக்குச் செல்லாதவர் ( )

4. மாத வருமானம்
   (அ) ரூ 6000/- கீழ் ( )
   (ஆ) ரூ 6001 லிருந்து 7000/- வரை ( )
   (இ) ரூ7001/- லிருந்து ரூ10,000 வரை ( )
   (ஈ) ரூ 10,000க்கு மேல்

5. மதம்
   (அ) இந்து ( )
   (ஆ) கிறிஸ்தவர் ( )
   (இ) முஸ்லிம் ( )
   (ஈ) மற்றவர் ( )

6. இருப்பிடம்
   (அ) நகரம் ( )
   (ஆ) கிராமம் ( )
   (இ)புறநகர்பகுதி ( )

7. திருமண விவரம்
   (அ) திருமணமானவர் ( )
   (ஆ) பிரிந்து வாழ்பவர் ( )
   (இ) மணமுறிந்தவர் ( )

8. குடும்ப வகை
   (அ) தனிக் குடும்பம் ( )
   (ஆ) கூட்டுக் குடும்பம் ( )
   (இ) விரிவானக் குடும்பம் ( )

9., உணவு பழக்க முறை

(அ) சைவம் ( )
(ஆ) அசைவம் ( )
(இ) இரண்டும் சேர்ந்தது ( )

பகுதி -ஆ
மகப்பேறு சார்ந்த் விபரங்கள்

10.குழந்தை பிறப்பு

(அ) சுகப் பிரசவம் ( )
(ஆ)அறுவைச் சிகிச்சை மூலம் ( )
(இ) ஆயுத முறையின் மூலம் ( )

11. குழந்தைகளின் எண்ணிக்கை

(அ) ஒன்று ( )
(ஆ)இரண்டு ( )
(இ) மூன்றுக்கு மேல் ( )

12. பிறந்தவுடன் குழந்தைக்கு பால் ஊட்டிய நேரம்

(அ)அரை மணி நேரத்திற்குள் ( )
(ஆ)ஒரு மணி நேரத்திற்குள் ( )
(இ) 1 மணியிருந்து 2 மணி வரை ( )
(ஈ) 2 மணி நேரத்திற்கு மேல் ( )

13. பிறந்த குழந்தையின் உணவு முறை

(அ) தாய்ப்பால் ( )
(ஆ) பார்முலா உணவு ( )
(இ) அ மற்றும் ஆ ( )

14. மார்பக முளையின் நிலை

(அ) சரியான மார்பக முனை ( )
(ஆ) உள்நோக்கிய மார்பக முனை ( )
(இ) புண்ணான மார்பக முனை ( )
(ஈ)வெடிப்பு விழுந்த மார்பக முனை. ( )

பகுதி - இ

தாய்ப்பால் பற்றிய பொது அறிவு சார்ந்த தகவல்

15. தாய்ப்பால்அதிகமாக சுரப்பதற்கான மாற்று மருத்துவம் பற்றி ஏதாகிலும் தெரியுமா?

(அ) ஆம்

(ஆ) இல்லை

ஆம் எனில் குறிப்பிடவும்----------
எதன் மூலம் அறிவீர்கள்----------

16. பாதாம் பருப்பின் மருத்துவ பயன்கள்

(அ)மூளை வளர்ச்சி அதிகரித்தல் ( )

(ஆ)தாய்பால் சுரக்கும் திறனை அதிகரிக்கும் ( )

(இ) உடலுக்கு சக்தி அளித்தல் ( )

(ஈ) இதைப்பற்றி எதுவும் தெரியவில்லை ( )

மாற்றியமைக்கப்பட்ட தாய்ப்பால் போதுமான அளவு சுரக்கும் தன்மையை அறிதலுக்கான வழி முறைகள்

(பாதாம் பவுடர் அளிப்பதற்கு முன்)

வ. எ ண்ண்	வழிமுறைகள்	மறுக்கிறேன்	குறைந்த அளவு ஒத்துக்கொள்கிறேன்	மித்மான அளவு ஒத்துக்கொள்கிறேன்	முற்றிலுமாக ஒத்துக் கொள்கிறேன்
1.	என் குழந்தை சரியான முறையில் மார்பாகத்தைப் பிடித்து பால் அருந்துகிறது.				
2.	நான் தாய்ப்பாலூட்டும்போது எனது குழந்தையின் பால் குடிக்கும் சத்தத்தைக் கேட்கிறேன்.				
3.	என் குழந்தைத் தாய்ப்பால் குடிக்கும் போது அமைதியுடனும் குடித்தப் பின் திருப்தியுடனும் இருக்கிறது.				
4.	தாய்ப்பால் கொடுக்கின்ற இடைப்பட்ட வேளையில் குழந்தை விழிப்புடனும் அமைதியுடனும் இருக்கிறது.				
5.	நான் போதுமான அளவில் (8 முதல் 12 தடவை/ஒருநாள்) குழந்தைக்கு தாய்ப்பால் கொடுக்கிறேன்.				
6.	என் குழந்தை தாய்ப்பால் குடித்தவுடன் அழாமல் உறங்கி விடுகிறது.				
7.	என் குழந்தை சரியாக (3 முதல் 6 தடவை/ஒருநாள்) மலம் கழிக்கிறது.				
8.	குழந்தை பால் குடித்தப் பின் நன்றாக (2 முதல் 3 மணிநேரம்) உறங்குகிறது.				
9.	குழந்தை பால் குடித்தப் பின் நன்றாக (6முதல் 8 தடவை/ஒருநாள்) சிறுநீர் கழிக்கிறது				
10.	தாய்ப்பால் கொடுக்கும் முன் மார்பகங்கள் நிறைந்து இருப்பதைப் போலவும் பாலூட்டியப் பின்பு லேசாக இருப்பதைப் போலவும் உணர்கிறேன்.				
11.	நான் மார்பகத்திலிருந்துத் தானாகவே தாய்ப்பால் வடிவதைஉணர்கிறேன்				
12.	நான் குழந்தைத் தானாகவே பால் உண்ணுவதை விடும் வரை தாய்ப்பால் கொடுக்கிறேன்				

Appendix 4: Permission letter from the director, IOG

Ref.No.4673/P&D/2015

IOG and Government Hospital for Women and Children, Egmore, Chennai 8, Dated 1.7.2015

Sub : Training - M.Sc., (N) II year., Obstetrics and Gynaecological Nursing – Clinical Practice, Dissertation, practical examination and Lecture training in the IOG and Government Hospital for Women and Children, Egmore, Chennai 8 for the period from 6.7.2015 to 5.8.2015-Permission - orders issued

Ref : Letter dated 24.6.2015 of the Head of Department, O&G Nursing, College of Nursing, Madras Medical College, Chennai 3.

+++++

As per the letter reference cited, the following M.Sc (N) II years students of Madras Medical College, Chennai 3 are permitted to undergo the clinical experience, lecture classes, University practical examination and also to carryout dissertation work in IOG and Government Hospital for Women and Children, Egmore, Chennai 8 for the period from 6.7.2015 to 5.8.2015 under the guidance of the Assistant Professor of O&G mentioned against their names.

Sl.No	Name of the Students	Name of the Assistant Professor of O&G of this Hospital
1	Mrs. A.Bhuvaneswari	Dr. M.Geetha
2.	Mrs.A.Josephine Carmel Rani	Dr.Nalina
3.	Mrs. Kalavathy Padmanaban	Dr.P.Priyadarshini
4.	Mrs.Kaliyaperumal Ananthi	Dr.K.priyadarshini,
5.	Mrs.Naidu Merita Mohanraj	Dr.M. Thangamani
6..	Mrs. Palaniammal	Dr.Sumathy
7.	Mrs. Princy Fernando	Dr.K. Abiramavalli
8.	Mrs. S.Jayashree	Dr.D. Shanthi Sivakumar

1.7.15

Director and Superintendent

Director and Superintendent
Institute of Obstetrics and Gynaecology and Govt. Hospital for Women and Children.
EGMORE, MADRAS-8

To

The Individuals concerned

Copy to

Dr.M Geetha, Assistant Professor of O&G , IOG and Government Hospital for Women and Children, Egmore, Chennai 8

Appendix 5: Informed consent

ஆராய்ச்சி தகவல் தாள்

ஆராய்ச்சித் தலைப்பு : மகப்பேறு காலத்திற்கு பின் பால் குறைவாக சுரக்கும் பாலூட்டும் தாய்மார்களை பாதாம்பால் உட்கொள்ளச் செய்வதால் பால் சுரக்கும் திறனை அதிகரித்தல்

ஆய்வாளர் பெயர் : அ.ஜோஸ்பின்கார்மேல்ராணி

பங்கேற்பாளர் பெயர் :
தேதி :
வயது/பால் :
ஆராய்ச்சிச் சேர்க்கை எண் :

நான் அரசு தாய் சேய் நல மருத்துவமனையில் மகப்பேறு பின் கவனிப்பு பிரிவுப் பகுதியில் உள்ள உள் நோயளிகளான பாலூட்டும் தாய்மார்களை திறனாய்வு மேற்கொள்கிறேன்.

சுகப்பிரசவத்தின் மூலமாகவும், குழந்தை பிறந்த மற்றும் தாய்ப்பால் சுரக்கும் திறன் குறைவாக உள்ள தாய்மார்களுக்கு தொடர்ந்து 5 நாட்களுக்கு பாதாம்பால் உட்கொள்ளச் செய்ய போகிறேன்.

இந்த செயல்முறையின் மூலம் பாலூட்டும் தாய்மார்களின் பால் சுரக்கும் தன்மை அதிகரிக்க வாய்ப்பு அதிகம் உள்ளது. இம்முறையைத் தாய்மார்கள் நன்றாக பயன்படுத்திக் கொள்ளலாம்.

தாய்மார்கள் தங்கள் சொந்த விருப்பத்தின் பேரில் ஆராய்ச்சியில் இணைக்கப்படுவர். விருப்பமில்லையென்றால் எந்நேரமும் விலகிக் கொள்ளலாம். இதனால் ஆராய்ச்சிக்கு எந்தவித பாதிப்பும் ஏற்படாது.

முடிவுகளை அல்லது கருத்துக்களை வெளியிடும் போது தங்களின் பெயரையோ அல்லது அடையாளங்களையோ வெளியிட மாட்டோம் என்பதை தெரிவித்துக் கொள்கிறோம்.

ஆராய்ச்சியாளர் கையொப்பம் பங்கேற்பாளர்கையொப்பம்

தேதி : தேதி :

ஆராய்ச்சி ஒப்புதல் படிவம்

ஆராய்ச்சி தலைப்பு :

பெயர்: : **தேதி**

வயது : **உள்நோயாளி எண் :**

பாலினம் : **ஆராய்ச்சி சேர்க்கை எண்:**

இந்த ஆராய்ச்சியில் விவரங்களும் அதன் நோக்கங்களும் முழுமையாக எனக்கு விளக்கப்பட்டது

.

எனக்கு விளக்கப்பட்ட விஷயங்களை நான் புரிந்து கொண்டு நான் எனது சம்மதத்தைத் தெரிவிக்கிறேன்

இந்த ஆராய்ச்சியில் பிறரின் நிபந்தனையின்றி சொந்த விருப்பத்தின் பேரில் பங்கு பெறுகின்றேன் மற்றும் நான் இந்த ஆராய்ச்சியிலிருந்து எந்நேரமும்பின் வாங்கலாம் என்பதையும் அதனால் எவ்வித பாதிப்பும் ஏற்படாது என்பதையும் நான் புரிந்து கொண்டேன்.

இந்த ஆர ய்ச்சியின் தகவல்களை வெளியிட சம்மதிக்கிறேன். அப்படி வெளியிடும் போது என் அடையளாம் வெளிவராது என்பதை அறிவேன்.

நான் என் சுயநினைவுடனும் மற்றும் முழுமனதுடனும் இந்த ஆய்வில் பங்கு பெற சம்மதிக்கிறேன்.

நான் இந்த ஆராய்ச்சிக்கு என்னுடைய முழு ஒப்புதலை அளிக்கிறேன்.
எனக்கு இந்த ஒப்புதல் கடிதத்தின் நகல் கொடுக்கப்பட்டது.

ஆராய்ச்சியிளார் கையொப்பம்: பங்கேற்பாளர் கையொப்பம்:

தேதி தேதி

Appendix : Coding Sheet

Q No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	a	b	16
E1	b	c	c	a	A	a	a	a	c	a	a	b	b	b	a	garlic	aunty	e
E2	b	a	c	a	c	a	a	b	c	a	a	a	b	a	b	-	-	e
E3	b	c	a	b	a	a	a	b	c	a	a	b	a	a	a	milk foods	mother	e
E4	c	b	a	c	A	a	a	b	c	a	c	c	a	a	a	non veg	relatives	e
E5	b	a	a	a	C	a	a	b	c	a	a	b	a	a	b	-	-	e
E6	b	a	a	b	A	a	a	b	c	a	b	b	a	a	a	garlic	mother	e
E7	b	b	a	c	A	b	a	b	c	c	a	c	a	a	a	fish /garlic	mother	E
E8	b	c	a	a	A	a	a	a	c	a	a	c	a	a	a	mothers horlicks	friends/relatives	E
E9	a	a	a	a	A	a	a	b	c	a	a	a	a	a	a	dairyfoods	mother	E
E10	b	a	a	b	a	a	a	b	c	a	a	a	a	a	b	-	-	E
E11	a	b	a	a	A	b	a	b	c	b	a	a	a	a	a	horlicks	aunty/mother	Strength
E12	c	a	a	a	A	a	a	b	c	a	b	a	a	a	a	milk foods	motherin law	E
E13	b	c	a	a	A	b	a	a	c	a	a	c	a	a	a	garlic	mother	E
E14	b	c	a	c	a	a	a	a	c	a	a	c	a	a	b	-	-	E
E15	b	c	a	c	a	a	a	b	c	a	a	c	a	a	a	fruits	husband	Strength
E16	b	b	a	a	a	a	a	a	c	a	a	b	a	a	b	-	-	memory increases
E17	b	a	a	a	C	a	a	a	c	a	a	a	a	a	a	veg/dates	mother	healthyfood
E18	a	b	a	a	a	a	a	a	c	a	a	b	a	a	b	-	-	E
E19	b	c	b	c	b	b	a	a	c	a	a	a	b	a	a	-	-	E

E20	e	a	a	a	A	a	a	c	c	a	b	c	a	a	b	-	-	E
E21	c	c	a	d	A	b	a	b	c	a	a	b	b	a	a	nonveg	mother	d
E22	b	a	a	d	A	a	a	a	c	a	a	d	a	a	b	-	-	E
E23	b	c	a	c	A	a	a	c	c	a	b	c	a	a	a	nonveg	mother	D
E24	b	b	b	a	B	a	a	a	c	a	a	d	a	a	b	-	-	D
E25	a	a	a	c	C	a	a	b	c	a	a	a	a	a	b	-	-	Strength
E26	b	b	a	a	C	a	a	b	c	a	a	d	a	a	b	-	-	D
E27	c	a	a	d	A	a	a	a	c	a	b	b	a	a	b	-	-	healthyfood
E28	c	b	a	c	A	a	a	a	c	a	a	b	a	a	b	-	-	D
E29	a	c	a	d	A	a	a	c	c	a	a	b	a	a	a	garlic	motherinlaw	
E30	b	b	a	b	a	a	a	a	c	a	a	c	a	a	a	fish/dry f	aunty/mother	D

PRE-TEST EXPERIMENTAL GROUP

Items	**E1**	**E2**	**E3**	**E4**	**E5**	**E6**	**E7**	**E8**	**E9**	**E10**	**E11**	**E12**	**E13**	**E14**	**E15**	**E16**	**E17**	**E18**	**E19**	**E20**	**E21**	**E22**	**E23**	**E24**	**E25**	**E26**	**E27**	**E28**	**E29**	**E30**
1	1	1	1	1	2	2	1	1	1	1	1	2	2	2	1	2	2	2	1	1	1	2	2	2	1	1	2	1	1	1
2	1	1	0	1	2	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	0	1	1
3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	1	0	1	2
4	1	1	1	0	0	0	1	1	1	1	1	1	0	1	1	1	1	0	1	1	1	0	1	0	0	1	1	1	1	0
5	1	1	1	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	2	3	2	1	1	1	2	1	1	1	1	1
6	1	1	2	1	1	1	1	1	2	1	2	1	1	2	2	1	2	2	1	2	1	1	2	1	1	1	1	2	1	0
7	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	1	1	1	0	1	0	0	0	1	0	1	2	1	1
8	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	1	1	1	0	1	0	0	0	0
9	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	1	1	2
10	0	0	0	0	0	0	1	0	1	0	1	0	1	0	1	0	1	0	0	1	1	0	0	0	1	1	0	2	1	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	1	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1
Total	**10**	**11**	**10**	**10**	**13**	**10**	**12**	**10**	**12**	**9**	**11**	**11**	**11**	**13**	**11**	**10**	**13**	**11**	**12**	**13**	**12**	**11**	**12**	**11**	**11**	**14**	**11**	**11**	**10**	**9**

POST –TEST EXPERIMENTAL GROUP

Items	E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11	E12	E13	E14	E15	E16	E17	E18	E19	E20	E21	E22	E23	E24	E25	E26	E27	E28	E29	E30
1	2	3	3	2	3	3	2	2	2	2	2	2	2	2	2	3	3	3	2	2	2	2	2	2	2	2	2	2	2	3
2	2	2	2	2	2	2	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	3	3	2	2	3	2	2	2	2
3	1	2	2	1	3	2	2	2	2	2	2	2	1	1	1	2	1	2	2	3	2	2	3	3	3	2	2	2	2	2
4	3	2	3	3	3	2	2	2	2	3	2	2	2	3	2	2	2	2	2	3	3	2	2	2	2	2	2	3	2	2
5	2	3	2	3	2	2	3	3	2	2	3	2	3	3	3	3	2	3	3	2	3	3	3	3	2	3	3	3	2	3
6	3	3	3	3	2	3	2	2	3	3	3	3	3	3	3	3	3	3	3	2	3	3	2	3	2	3	3	3	3	3
7	2	2	3	2	2	2	3	3	2	2	3	2	2	2	2	2	2	2	2	3	2	3	2	1	3	2	3	2	2	2
8	1	2	2	2	2	1	2	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	2	1	1	2	2
9	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	2
10	2	2	2	2	2	2	2	2	2	2	2	2	2		2	2	2	2	3	2	2	1	2	2	2	2	2	2	2	2
11	3	1	3	2	2	3	1	1	1	2	1	1	1	2	2	2	2	1	2	3	2	2	1	1	1	1	2	1	1	1
12	2	3	2	2	3	3	2	2	2	1	2	2	2	2	2	2	2	3	2	2	2	2	2	3	2	1	1	2	2	2
Total	26	28	30	27	29	28	27	25	23	25	26	24	24	24	25	27	25	28	27	28	27	27	26	26	25	26	26	25	25	26

Q No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	a	b	16
E1	a	b	a	c	a	b	a	b	c	a	a	b	a	a	a	dry fish	mother	D
E2	a	b	a	a	a	b	a	b	c	a	a	b	a	a	a	garlic	mother	D
E3	b	a	a	c	c	c	a	c	c	a	a	c	a	a	b	-	-	D
E4	a	a	a	b	b	a	a	b	c	a	a	a	a	a	b	-	-	D
E5	b	c	c	c	a	c	a	c	c	a	b	c	a	b	b	-	-	D
E6	a	c	b	b	a	a	a	a	c	a	a	a	a	a	a	sheel fish	mother	brain development
E7	c	c	a	b	a	b	a	a	c	c	a	c	c	a	a	garlic	mother	D
E8	b	b	a	a	a	b	a	b	c	b	a	a	a	a	a	-	-	D
E9	b	a	a	c	a	a	a	a	c	c	a	b	a	a	b	-	-	strength
E10	c	a	a	d	a	a	A	a	c	a	a	b	a	a	b	-	-	D
E11	b	b	a	d	a	b	A	b	c	a	a	b	a	a	b	-	-	D
E12	b	c	a	d	a	a	A	b	c	a	b	d	a	a	a	nuts/fish	relative	D
E13	c	b	a	c	c	a	b	b	c	a	a	a	a	a	b	-	-	D
E14	c	c	a	d	a	b	a	b	c	b	b	b	a	a	a	mother horlicks	relatives	nutritive food
E15	b	a	a	a	a	b	a	b	c	a	a	b	a	a	b	-	-	strength
E16	a	b	a	d	a	a	A	b	c	vaccumd	a	c	a	a	b	-	-	D
E17	b	b	a	c	a	a	a	b	c	a	a	b	a	a	A	garlic	aunty	strength
E18	b	c	a	b	a	b	a	b	c	b	b	a	a	a	a	milkfoods	relatives	D
E19		b				b		a		b	a		a	a		-	-	D

	b		a	c	c		a		b			c			b			
E20	b	b	b	c	a	a	a	b	a	a	a	c	a	a	b	-	-	healthynuts
E21	c	b	a	c	a	b	A	c	c	b	a	c	a	a	a	cumin seed	mother	D
E22	b	a	b	a	b	b	a	c	c	a	a	b	b	a	b	-	-	D
E23	b	b	a	b	a	a	a	a	a	a	a	b	d	a	b	-	-	healthyfood
E24	c	d	c	c	b	a	a	a	c	a	b	d	a	a	a	garlic	relatives	D
E25	b	a	a	d	c	b	a	b	c	b	b	d	c	b	a	dry fish	aunty	D
E26	d	d	b	b	b	a	a	c	c	c	a	d	a	a	b	-	-	D
E27	b	b	a	c	a	a	A	a	a	B	a	d	a	a	b	-	-	D
E28	d	b	a	b	b	a	a	a	c	C	b	c	a	b	b	-	-	D
E29	d	b	a	a	a	c	A	c	c	a	a	d	a	a	a	ga rlic	aunty	D
E30	b	c	a	d	b	a	a	c	c	b	b	c	a	a	b	-	-	D

Pre test level of control group

Items	c1	c2	c3	c4	c5	c6	c7	c8	c9	C10	c11	c12	c13	c14	c15	c16	c17	c18	c19	c20	c21	c22	c23	c24	c25	c26	c27	c28	c29	c30
1	0	1	0	2	1	1	1	1	1	2	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1
2	1	1	1	1	1	1	1	2	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1
3	0	1	0	1	1	1	1	1	1	0	0	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1
4	1	0	1	0	0	0	1	1	1	0	0	0	1	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
5	1	2	2	2	2	2	2	1	2	2	2	2	2	1	1	1	2	1	2	2	2	1	2	2	2	2	2	1	2	1
6	0	1	1	1	1	1	2	2	2	1	1	1	1	2	2	1	1	1	1	1	1	1	2	2	2	2	1	2	2	1
7	1	0	0	0	1	1	0	1	1	1	1	1	1	0	1	1	0	0	1	0	1	1	1	0	0	0	1	0	0	1
8	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2
10	0	1	0	0	0	0	0	0	1	0	1	1	1	0	0	0	1	1	0	1	0	0	0	0	0	0	1	0	1	1
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	2	1	2	1	1	1	1
Total	**6**	**9**	**8**	**11**	**10**	**10**	**11**	**12**	**13**	**10**	**10**	**10**	**12**	**9**	**10**	**9**	**9**	**10**	**10**	**10**	**10**	**9**	**11**	**10**	**10**	**11**	**11**	**8**	**12**	**11**

Post test level of control group

Items	c1	c2	c3	c4	c5	c6	c7	c8	c9	C10	c11	c12	c13	c14	c15	c16	c17	c18	c19	c20	c21	c22	c23	c24	c25	c26	c27	c28	c29	c30
1	2	2	2	2	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2	2	1	1	2	1	2	2	1	2	2	2	2	1	1	2	1	2	2	2	2	2	1	1	2	2	2	1	1	1	1
3	0	2	2	1	1	1	1	1	1	2	1	2	1	2	1	1	2	1	1	1	2	2	2	2	2	2	1	1	1	2
4	1	0	1	2	0	0	2	2	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	0	0	1	1
5	2	2	2	2	1	2	2	2		2	2	2	2	2	2	2	2	1	2	2	2	2	3	2	3	3	2	2	2	2
6	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	1	2	2	1	2	2	2	2	2	2	2	2
7	0	1	2	1	2	1	1	2	3	1	1	1	1	2	1	1	2	1	2	2	1	2	2	1	1	2	1	1	1	1
8	1	1	1	1	0	1	1	1	2	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1
9	2	3	3	3	3	2	3	2	2	2	2	2	2	3	3	3	2	3	3	2	3	3	3	2	3	3	2	2	2	3
10	1	2	1	2	2	1	1	1	2	1	1	2	1	1	1	1	1	1	1	1	0	2	1	1	1	1	1	1	1	1
11	0	1	0	1	0	1	1	0	1	0	1	1	0	0	0	0	0	0	1	1	2	0	0	0	0	0	1	0	1	0
12	2	2	2	2	2	1	2	1	2	2	2	1	2	1	2	2	1	2	2	1	1	1	2	2	2	2	2	2	2	2
Total	15	19	18	21	16	16	20	17	20	18	18	20	16	17	18	17	19	17	19	19	19	17	20	18	20	21	16	14	17	18

Appendix 7: English Editing Certificate

CERTIFICATE

This is to certify that the dissertation work **"A study to assess the effectiveness of almond powder on lactation among postnatal mothers admitted at Institute of Obstetrics and Gynaecology and Government Hospital for Women and Children, Chennai"**, done by **Ms.A.Josephine Carmel Rani,** M.Sc (N) II year student, College of Nursing, Madras Medical College, Chennai – 03 is edited for English language appropriateness.

Place:

Date:

Signature 4/2/16

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Designation